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ADULT LEARNING & INSTRUCTION

Joint Publication

ERIC Clearinghouse on Adult
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ADULT LEARNING & INSTRUCTION

Edited by

STANLEY M. GRABOWSKI

ERIC Clearinghouse on Adult Education
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1970

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January 1971

PREFACE

The ERIC Clearinghouse on Adult Education is making available the papers presented at the 1970 University of Wisconsin Summer Adult Education Conference so that they might reach a broader spectrum of adult educators. The enthusiastic response to the 1969 conference papers dealing with "self concept in adult education" prompted us to assist in the dissemination of the 1970 Conference papers. While these annual conferences provide a forum for dialogues about adult education, they deserve a wider audience than the actual conference participants, especially since they are designed to examine issues at the frontiers of adult education.

For the longest time, one of the problems in the field of adult education has been the wide gulf between the researcher and practitioner. Now, slowly, the gap is being bridged with documents such as these emanating from the Wisconsin Summer Adult Education Conferences, constituting an important contribution to the field by combining research findings with concrete implications for the practitioner.

For the most part, these papers required little editing. We have added references from the ERIC/AE collection and supplied abstracts by way of supplementary bibliographies to aid the reader in his search for further information.

Many documents mentioned in the bibliographies are available from regular publishing sources; others may be purchased in inexpensive microfiche or hard copy reproductions from the ERIC Document Reproduction Service (EDRS). Please read carefully the note on availability of documents on page 118.

To be informed of the latest literature on adult education (and other areas of education) we recommend a regular scanning of the two abstract journals of the ERIC system -- Research in Education and Current Index to Journals in Education both now widely available in education libraries, universities, and school systems.

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Our thanks are due to the University of Wisconsin Joint Office for Study, Research and Development in Adult Education and University Extension and the 1970 Conference Committee for providing us with these papers: Sara Steele, Chairman, Russell Robinson, Robert Schadt, John Thompson.

Also, we are grateful to the Adult Education Association of the U. S. A. for making this publication more easily available.

Stanley M. Grabowski
Assistant Director
ERIC Clearinghouse on Adult Education

January 1971

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Herbert A. Thelen

Focusing on processes of educational change, this paper considers how experienced teachers, educational theorists, and researchers possessing empirically tested knowledge can cooperate in program planning. First, basic criteria (completeness and vitality of a system, how it maintains itself, how educators learn the system and participate in it) are offered for analyzing educational systems and programs. Basic functions within different roles (interpersonal, productive, and membership or maintenance) are defined in terms of the organizational settings, adaptive strategies, and fellowship group or other subculture represented. Various types of systems, ranging from conceptual (the idea of a world utopia) to individual (personality structure) are noted. The adaptive dynamic cycle (as in the interaction between public schools and neighborhoods) is portrayed as primarily a vigorous feedback process shaped by the individual roles, subcultures, and other structural elements involved. Finally, the author suggests some scenarios (predictions of real life, practical steps) which he considers applicable to acceptance of a pilot innovation or to classroom settings.

FORMAL PROPERTIES OF INSTRUCTIONAL THEORY FOR ADULTS. 28
John F. Thompson

The author begins by reviewing and interpreting the literature of adult instruction, then offers some inductive generalizations based on the literature, and proposes his own theory of instructional transactions. He sees major limitations in theory and practice: adult education is long on empiricism, much shorter on theory; adult educators tend to act as if there were a single classical instructional theory; instruction within subject matter areas has received little attention; few adult education studies have dealt with the maximum effectiveness of a particular setting; and confusion exists between instructional and curriculum theory. Various approaches to classifying instructional theories and analyzing theoretical aspects of adult education, are also noted. Finally, the author asserts that instructors must understand themselves better, stress individual responsibility for learning, learn from their involvement with students, lead students toward higher levels of reasoning, recognize that teaching is largely a sharing process, and show special concern for individual needs and learning styles, in order to be truly effective.

STRATEGIES OF INSTRUCTION IN ADULT EDUCATION 46
James B. Macdonald

Educational strategies can be regarded as labels for social games -- learned cultural sequences with roles, rules, goals, rituals, values, and a distinctive language -- which create communication networks conducive to various kinds of learning. Afred North Whitehead has suggested that "romance" (loose immersion in the world of facts and data), "precision" (developing conceptual frameworks and fitting one's own experiences within them) and generalization (applying knowledge and experience to new phenomena and then exploring beyond) are the typical stages of learning from early childhood through adulthood. However, adult learning can encompass any or all of these stages. Instructional games can be based on or aimed at knowledge giving, skill mastery, problem solving, discovery or inquiry, dialogue, or clarification. The first three are "closed" strategies designed to impart existing knowledge; the last three are "open" strategies by which personal meanings are maximized and new transcendent meanings created. Adult educators should consider using both kinds of strategies to permit the breadth of cognitive development needed for truly rational behavior.

THE CHALLENGE OF OPERATIONALIZING STRATEGIES OF INSTRUCTION. . . . 60
Frank P. Zeidler

Adult educators must strive to become better competitors for funds and program support by examining the moral and philosophical assumptions underlying their programs; working for more favorable political conditions both locally and nationally; inducing employment agencies and other organizations to give recognition for successful achievement in adult education; supporting the idea of more research and development in adult education; learning better salesmanship techniques and the art of seeking grants; planning their own programs more thoroughly; and, above all, making the public more appreciative of the value of adult education and willing to pay a larger share.

ANDRAGOGY, NOT PEDAGOGY. 71
Malcolm S. Knowles

Adult education is no longer marginal, but is becoming a central concern and need in our civilization. It has grown greatly during the 1960s in both clientele and the number of sponsoring organizations. However, thus far it has not had sufficient impact on attitudes, world views, and life styles because it has clung to inappropriate concepts and methods derived from traditional childhood education. The emerging field of andragogy -- the art and science of helping adults learn -- promises to regenerate adult education by representing adults as automomous beings, deserving of respect, who differ significantly from youth in self-concept, learning motivation, time perspective, and richness of experience. Such a concept implies the need for adult centered environments and activities built around problem areas rather than subject categories. It also implies that adults can (and should) diagnose their own needs, participate in program planning, learn through mutual self-directed inquiry, and evaluate their own learning.

AN APPROACH TO A DIFFERENTIAL PSYCHOLOGY OF THE ADULT POTENTIAL. . 80
Howard Y. McClusky

This paper employs the concept of stimulus and response, with individual perception as the main intervening variable, to help explain the learning process; introduces a relatively new concept of "margin" as an approach to the dynamics of adult adjustment and learning; and draws on developmental theory to discuss adult personality change through time. Margin is here defined as the surplus power (abilities, possessions, position, or other resources) available to a person beyond what is required to meet the demands imposed by oneself and by society. Changes throughout adulthood are examined in terms of critical life events, stronger commitments, and time perspectives. Six different models of developmental stages are next compared, with emphasis on the three (Eriksen, Peck, McClusky) which the author considers more optimistic. Finally, after reviewing several longitudinal and cross-sectional studies, the author concludes that declines in adult educational participation and learning generally stem from attitudes and circumstances rather than from loss of innate learning ability. The document includes 23 references.

FUNDAMENTALS OF ADULT LEARNING. 96
Jerold W. Apps

In view of certain weaknesses in adult educational philosophy, not to mention the challenge of serving the rising generation of young adults, the fundamentals of adult learning must be re-examined. Several guidelines might be offered: adult educators must focus on individuals and consider the whole person; learners should be involved in making decisions on content and methodology; instructors must be willing to take risks and to become resource persons rather than sole authorities; a climate of trust is needed between learners and instructors; the learning process must be considered as important as the content. These guidelines can be used in deciding which broad approach to learning (acquisition of content, problem solving, or personal inquiry into the meaning of subject matter) is most appropriate for a given situation or clientele group. Sixteen references are included.

ADMINISTRATIVE RESPONSIBILITY FOR EFFECTIVE INSTRUCTION IN ADULT EDUCATION PROGRAMS. 109
Valbur Borger

All adult education administrators bear responsibility, at one level or another, for devising and managing learning environments conducive to relevant instruction. Lower echelon administrators can help teachers improve their effectiveness through suitable diagnostic techniques, learning experiences, and measurement instruments. However, because of their key role in program planning and personnel selection, higher level administrators should be held even more accountable for learner performance. In particular, educational administrators must increase their understanding of adult learning problems, adult characteristics, and innovative instructional procedures in order to exercise effective leadership.

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INTRODUCTION

Here are the eight papers on adult instruction and learning which were presented at the 1970 University of Wisconsin Summer Adult Education Conferences. Those of us who attended the conferences probably assimilated only a small portion of their content during the sessions. Now, with the edited papers in our hands, we have the opportunity of

(1) exploring the ideas of each of the eight major speakers in more detail

(2) comparing, contrasting, and combining the ideas of two or more speakers

(3) examining our own beliefs about learning and instruction in light of the ideas presented

These papers require more than a quick reading. Most of us will have to do a good deal of chewing because many of the points are not easy to grasp. The papers recognize that the process of helping adults to learn is a complex process. We delude ourselves if we think we can find a magic set of six steps or a foolproof formula for easy instruction.

Instead of a simple recipe we need a sound philosophy and theory about the process of adult education. We need a framework that we can use in relating ideas such as those presented in these papers to experience.

After you have reviewed the eight papers -- gotten reacquainted with the ideas that you heard or newly acquainted with the presentations that you missed -- you may want to examine them in terms of your own underlying framework and may want to sort ideas from various papers into slots in that framework. The papers are presented in the order in which they were given.

The Madison conference papers (Thelen, Thompson, Macdonald, Zeidler) explore developments in instructional theory. The Milwaukee conference papers (Knowles, McClusky, Apps, Borger) examine theory and research about the adult learner. In each sequence, the first three papers focus closely on the assigned topic, the fourth paper expands the discussion to a larger area -- operationalizing strategies, Zeidler; administering instruction, Borger.

Their use to you, however, may go beyond the original design of the conferences. You are free to reorder them or to reorder parts of them, tracing patterns which have the most relevance to your own needs.

For example, if you are primarily interested in how to guide instruction, you will want to turn first to Macdonald's paper which discusses open and closed strategies (p. 53) and categorizes educational approaches into the following types: information giving, mastery, discovery or inquiry, and clarification. You will want to explore Apps' guidelines for effective learning (pp.100-101) and the three models he sketches (pp.101-104).

If your first interest is that of learning more about the adult as a learner, you will want to turn directly to Knowles and McClusky. Knowles discusses the aspects of the adult which require a different approach for instruction -- in particular, the effect of self concept, experience, and the time perspective of the adult. McClusky describes how the power-load ratio affects the adult's performance. But it is not enough to understand the learner. You must also examine what you really believe about man's ability. Borger quotes Gordon's comparison of the effects of the belief of a Newtonian type vs. belief in an Einsteinian type(pp. 113-114). Thompson underlines the importance of what the instructor believes about himself and his learners (pp. 36-37).

If your major concern is learning more about how one builds frameworks --either established theory for a field or a working framework to guide one's own efforts -- you may want to start with Thompson's presentation of the elements of his own framework (pp. 36-38) and then read the first part of his paper which presents some of the qualities that a framework should have (pp.29-30) and an assessment of the state of instructional theory in adult education. You will then want to turn to Thelen's paper and explore the roles of intuitive knowledge, universal propositions, and warranted knowledge in establishing such a framework (pp. 1-4).

It becomes very clear from the various papers that the specific teacher-student relationship at any given point in time is only the peak of the iceberg. The specific interaction is inmeshed in the total individual and the systems that he is involved with. Macdonald puts teaching into a different focus as he refers to it as a game in the sense that it is a learned cultural sequence characterized by: roles, rules, goals, rituals, language, and values (pp. 46-49). Systems affecting the teaching-learning transaction are dealt with by Thelen as he illustrates how the educational trialogue takes place in the development of theoretical frameworks (pp. 5-26). Zeidler discusses the political aspects of systemic relationships and Borger discusses the role of administration.

After you have finished your exploration of a given pattern as it may appear in the various papers, you may want to go back and consider certain ideas and see whether you accept them. For example, how do you react to Knowles' statement that adult educators are hamstrung by concepts (p.71 and methods of traditional education of children? To Apps' assertions that (1) the aim of adult learning is inaccurate, (2) adult educators are more concerned with means rather than ends, and (3) young adults will bring a new perspective to adult learning(pp. 97-100)? To Zeidler's belief that the aim of education must be to educate people to the responsible use of power (p.63)? To Thompson's assertion that adult education has trapped itself in a contradiction of major proportions(p. 36)?

The Summer Adult Education Conference is an annual event sponsored by the Joint Office for Study, Research and Development in Adult Education and University Extension at the University of Wisconsin.

We appreciate the work of ERIC in making the presentations of the conference available and of adding references to other materials on this topic.

The 1970 Conference Committee
Dr. Sara M. Steele, Chairman

THE EDUCATIONAL TRIALOGUE

HERBERT A. THELEN

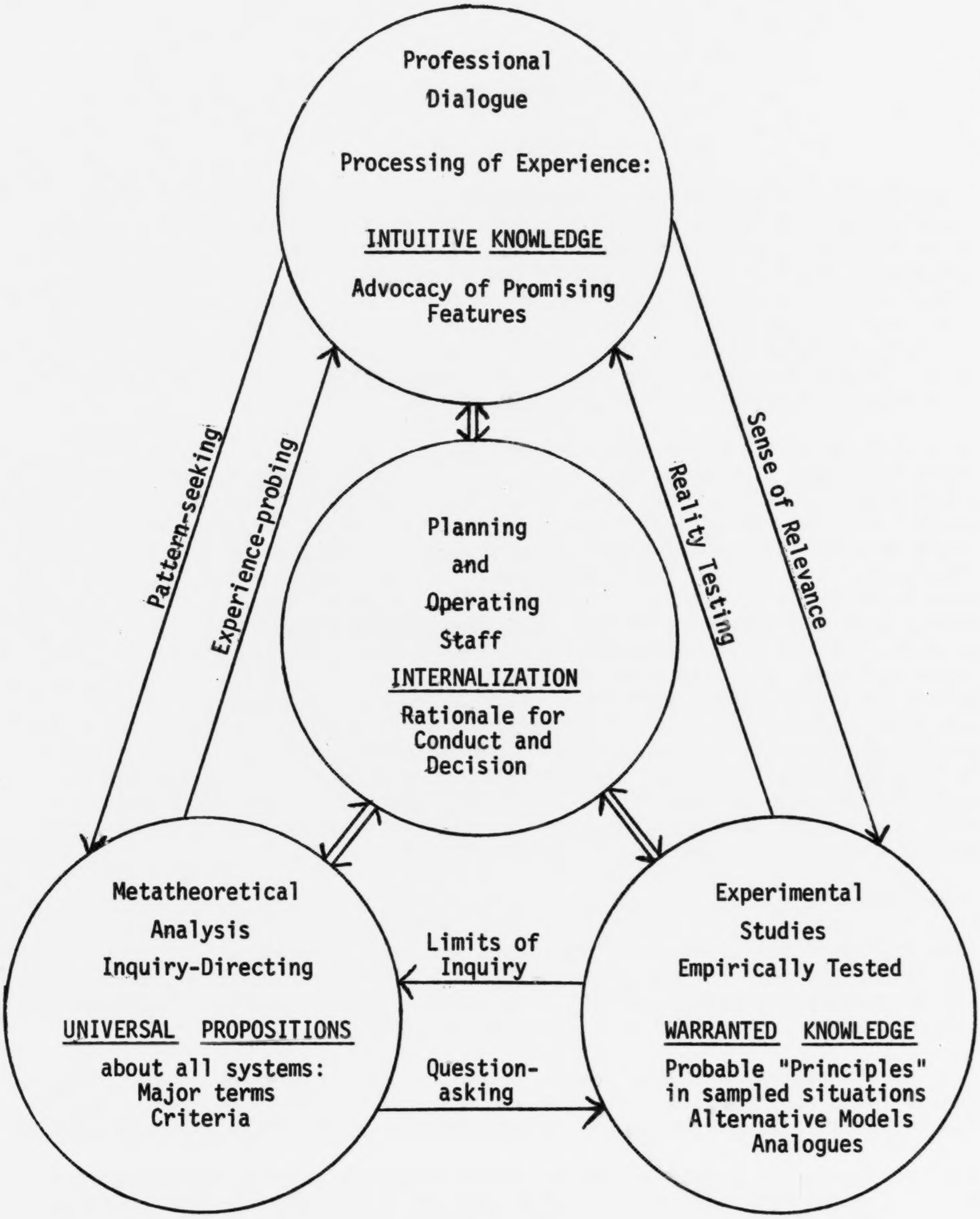
A trialogue is a dialogue with three participants--or it might be three simultaneous dialogues. The first participant is the professional, experienced educator. It is customary to say that his knowledge and theories are intuitive, meaning that their validity is untested. An experienced practitioner hopefully already knows who he is so he doesn't have to use class time to find that out. He is free to do the educational job. Such persons may have a lot of wisdom. They are artists whose art is realized through acting on hunches, and these hunches are often better than the suggestions of graduate students who have no experience but much "theory."

My prototype of the experienced practitioner is Miss P., a teacher of 35 years service. I remember talking to Miss P. on the first day of her first grade class. I said, "Well here it is, the first day, noon. You have already had the class three hours, so I suppose you already know who will learn to read first and who will take longest to learn to read?" She said, "Oh, sure," so I said, "Fine, let's make a list." We made the list,and a year later I ran across it. It took awhile for me to figure out what it was; then I went and checked with her. She had guessed right on the tops and bottoms, but had interchanged a few in the middle. She had a kind of intuitive knowledge that first day that our reading clinic, with all its diagnostic batteries, could well envy. When asked how she knew, she said it was from watching the kids. On further probing, she admitted that the playground was the most informative setting; on further probing, it was related to tree-climbing. The ones who just went up and down the tree and had fun would be the ones to read first. Those who cowered at the bottom and those with "low energy" would be the ones to read last. Maybe the clinic should make a tree-climbing test for reading readiness.

Experienced, unconflicted practitioners, then, are processors of raw experience--and some of it is pretty raw. They are the first line of attack; they represent the level where the human nervous system comes in direct interactive contact with the world (Figure 1). Something happens in that nervous system--memory, awareness, affect, and thought processes--and some of what happens can be articulated with some degree of accuracy.

A group of practitioners can usually agree relatively rapidly on criteria they think a good program would meet. Their conclusions just "feel right"--meaning that they join with, and reduce tensions from, their own experiences.

The second kind of person in the trialogue would be a special kind of theorist. I might call him an educator or perhaps a philosopher. He is the guy who can talk to professionals and try to tease out the germinal truth from among the ideas that they are partial to. What is really essential or unusual among the things the practitioner seems to have "got hold of"? Let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Pattern-seeking
Experience-probing
Reality Testing
Sense of Relevance
Limits of Inquiry
Question-asking

Figure 1 - The Educative Trialogue

me give an example or two. Take programmed learning. It contains, and demonstrates with great clarity, imbedded in a lot of nonsense, one seed that is universally valid: the idea of feedback. In programmed learning, you can see feedback in operation. You can see what it does, the conditions under which it works, etc. Our metatheorist, then, looks for the spirit, the germ, the seed which for the practitioner too often remains obscured and camouflaged under a smoke screen of procedures, rituals, curriculum doctrines, and personal biases.

Consider another example. I remember watching closed-circuit TV many years ago when it was new and shiny. I wondered what was the point. What good is it to put the teacher in one room and the class in another? Yet it seemed to work pretty well in the sense that the class was attentive and productive. I wondered if there was something to the notion of not having two-way communication all the time. Is it possible to have too much communication or too rich communication? The germinal idea, then, was that maybe there is a certain quality of richness or completeness of communication that is appropriate for different purposes. So we tried having an algebra teacher teach algebra by telephone--which restricts communication even more than TV. He came up with the conclusion that he had never taught better.

Or take the business of tutoring, where underachieving predelinquents in the fifth or sixth grades tutor much younger children. This is one of the few things thought great by everyone who has tried it. They may not be able to demonstrate any results, but there is some germinal, essential thing that everyone responds to. This essential element seems to be an increase in self-esteem of the underachiever.

The metatheoriest is a prober, a guy who talks to the practitioner and looks beneath parochial enthusiasms for underlying germinal features that are fundamental. He knows that the procedures by which a basic value is achieved in one particular setting might not work at all in another, so he tries to elevate the practitioner's experience of a particular instance to the level of propositions; he then tries to imagine alternative ways to achieve the same essential result. The metatheoretical proposition is thus a bridge between a particular experience and a whole flock of equally useful, potential experiences. Such propositions guide inquiry. They tell the questions to ask and the terms in which the answer is to be sought.

The third participant is the researcher-scholar, somebody who has at his fingertips a store of clear-cut, formulated, warranted knowledge--ideas empirically tested through research. The most useful research reports are well written; they could qualify as literature. One gets from them a feeling for what the research experience was. One can visualize the phenomena and has confidence that the data symbolize and index what happened. The "research contribution" is not a bunch of abstract principles isolated from situations; it is the presentation of relationships between language and experience in carefully studied situations. Research is useful when its outcome is the formulation of analogues. Consider, for example, the classic Lewin-Lippit-White research on group atmospheres, which compared democratic, autocratic, and laissez-faire leadership in groups. The concluding generalizations were meaningful because it was easy to form a clear picture of what happened in those groups. But lists of "five basic principles" apart from situations tend to be ambiguous,empty, and highly forgettable. In scanning the "research literature," one looks for reports of whole incidents. One "understands" a piece of research when he appreciates how the vocabulary, the testing instruments, and the intervention techniques form a pattern. The researcher that the metatheorist needs is not merely an abstractor. He is a knowledgeable person who knows the details of the experiment as well as its findings.

Referring to the arrows in Figure 1, the metatheorist seeks patterns and essences within the intuitive knowledge reported by the practitioner; he asks shrewd questions that compel reflective thinking by the practitioner. Thus, if a practitioner is keen on "group dynamics," you say to him, "What happens to the individual?" and if his bag is individualized instruction, you say to him, "What is the use of the group?"

The researcher also needs the professional. The professional looks at the experimental studies and reacts to their relevance, partial utility, and nonsense; he provides reality testing (at least) of the communicability--and often of the wisdom--of experimental studies. The professional has ideas about which variables will pay off, where the shoe pinches, and what kinds of data may seem best to tell the story.

The metatheorist proposes to the researcher questions and propositions that need exploration. The researcher replies, "Look, I cannot work at that very general level. I have to look at your propositions in terms of kids of a certain age, with particular kinds of objectives, etc." The researcher feeds back constraints within which questions will have to be answered. He challenges the metatheorist to bring them down to earth a little more, break them down to an investigatable form under researchable conditions.

But there is an element missing from this cozy triad: the program planner. He is right in the center. Somebody has to see the trialogue whole; he has to transcend the boundaries of the three roles. He must have sympathy, empathy, and competence with all three in relation to each other so that he can sense which of the three should be called on next. To achieve integration among demonstrable facts, orientation to what is important in education and life and feeling for phenomena requires internalization of the trialogue and of strategies for coordinating the three kinds of contribution. This spirit or ethos of an enterprise cannot be captured alone in the principles of the researcher, the emotional biases of the practitioner, or the sense of universality of the metatheorist. The spirit, the quality that makes a trialogue "meaningful" is a property of its wholeness, not a summation of its ingredients.

(For those who wonder where "theory" fits into this paradigm, I would reply that the practitioner has intuitive theory, the researcher has empirically based theory, and the metatheorist has dialectical or propositional theory.)

From Practical Experience to Universal Questions

Let us now illustrate the interaction between the practitioner and the metatheorist-philosopher. One way to go about this is to ask the practitioner to say what was important or exciting about the experiences that he judges "successful," as compared implicitly or explicitly with those he considers "unsuccessful." If a team of practitioners has, over a long period of time, hammered out a successful program, they may have a fair agreement on what they thought were the essential features that account for or constitute the program's success. The metatheorist would then look at these features and try to identify germinal, universal qualities, divorced from their particular surroundings.

Such formulations can be found for successful elementary teacher preparation programs, radical schools, and adult education programs. Of the latter, a major success story seems to be that of the Agriculutral Extension program. In Figure 2, I have copied the formulation by M.L. Wilson, writing in Land Policy Review for Fall, 1944, and quoted in a book by C. Harley Crattan called In Quest of Knowledge, page 206. I have rearranged the items, but the words and headings are Wilson's. He presents five major features. On the left side of the table, the first block, which Wilson calls "Cooperation," has to do with the three levels of government and with the community. But what is the important notion underlying these details? In the next block of three, "Democratic Use of Applied Science" says that the clients will have some choice about whether to accept or reject parts of the program. "Participation" shows that the roles of the participants are not all alike and are certainly not confined to the traditional "learner" role. They involve taking some responsibility for making the program work. And "Grass-Roots Organization" suggests that some of the power and responsibility for thinking about the program is located within the clients themselves. Finally, the fifth point, about "Variation of Methods," implies availability of a wide variety of teaching methods as needed to reach everybody.

Reflecting on these points and comparing them with similar analyses, I look for the germinal questions which are answered by these described features of this particular program.

The broad question answered by the information about levels of goverment and community seems to me to be "What part of the world (i.e., what universe) must we be concerned with in thinking about and developing the program?" Subquestions would ask about complexity, suggested by the fact that there are different levels of ages, etc.; about the imbeddedness of activities of each part within the whole complex system; and about whether the parts complement each other and make the system complete or self-sufficient. I wonder whether or how the inclusion of so many levels relates to success. I propose that the more different groups are functionally involved in a program, the more stable it will be and the more dialogue there will have to be about its purposes--both useful conditions for survival.

Letting people have choice "according to their own wishes and needs," giving them bigger roles, and inviting their "sponsorship" makes the program seem vital and energetic. The energy for learning and for operating the system

PRACTITIONER INTUITION OF ESSENTIAL FEATURES	METATHEORETICAL QUESTIONS
(3) Cooperation. Cooperating educationally and otherwise with the three levels of government--Federal, State and county--and with local groups and organizations. (4b) Extension work reaches into the community, neighborhood and family, with projects for every member including boys and girls 10 years old or over.	How is the Universe Defined? System imbeddedness completeness complexity
(2) Democratic Use of Applied Science. Translation of scientific research and experimental findings in such a way that farm people can adapt them or reject them, according to their own wishes and needs. (1) Participation. Interesting farmers or members of their families in acting either as project demonstrators or cooperators, or as local or neighborhood leaders.	How energetic is the system? What is the source of vitality for each part?
(4a) Grass-roots organization. Sponsorship of local programs by local groups of rural people in cooperation with the resident agent representing the Extension Service.	How is the system internalized? For voluntary cooperation adaptive transfer
(5) Variation of Methods according to needs of groups. Development of a variety of teaching methods with which to reach different groups in the community.	How does the system maintain itself? in re: Steady state Centrifugal vs centripetal forces Responsiveness (Steering & management)

M.L. Wilson, in Land Policy Review, Fall, 1944. Quoted from C. Hartley Grattan, In Quest of Knowledge, Association Press 1955, page 206.

Figure 2--AGRICULTURAL EXTENSION PROGRAM

has to come from people who have something on their minds or who, as we say, are "motivated." I have seen systems in which the bull sessions are lively, but the thinking about what to do is dead. Such systems fail. One must have the system vital in all its parts. The broad question is not confined to motivation of individuals; it also refers to the conflicts and driving forces within groups as parts of the system and with the stimulus-value of demands from the outside itself that each group must deal with. What circumstances, then, are counted on to make the system go? And will it be an active, energetic, and adaptive affair, or a dreary, routine, ritualistic, and empty enterprise?

Closely connected to these questions is the query: How is the system internalized? In order to perform in the various described roles, their incumbents will have to know what the program is all about and how their roles fit into the whole picture--the typical understandings not required in the role of "student." People are expected to cooperate voluntarily, and therefore they have to know how the system operates and how it incorporates within its operation the gamut of thoughts, feelings, and performances of individuals. Understandings of this sort translate participatory action into conceptual models. When the participants encounter other programs, their mental model of the Agricultural Extension program will assist them to know what to expect and how to conduct themselves.

Finally, "Variation of Method According to Needs" raises for me the general question, "How does the system maintain itself?" What are the kinds of internal accommodations through which it stays responsive to changing participants and social conditions? As programs become institutionalized, they are in danger of becoming too rigid to change, and one group after another drops out. The antidote is to elicit and build on conflict and disaffection, to legitimize these as driving forces within the system. Under the question of maintenance, I have shown some related terms: to maintain a "steady state," so that it can process a wide variety of inputs from people without being disrupted; to resolve conflicts between forces in the system that tend to make it fly apart (toward individualization) and forces that tend to compress it together (toward group or institutional purpose). For the system to be responsive, it must strike a balance between these forces. If only unthought-out emotional expressions (individualistic) are to be kosher in this group, then everybody who wants to think is discriminated against and vice versa. Skilled leadership, informed by diagnosis, is required to keep emotion, action, and thought in balance and thus to keep the system responsive and receptive to further ideas, thoughts, and feelings.

Thus, as a metatheorist studying practitioner statements from Agricultural Extension and other programs, I come up with four questions worth asking of all systems: What is the scope and completeness of the system--defining the universe? How vital is it--dead, active, or hyperactive? How is it internalized by participants--can they help make it work through self-disciplined effort or must they be driven? How is it steered--how are its dynamic forces balanced one against another in such a way as to keep the whole thing receptive, open, stable, and vital?

The Parts of the System

The metatheorist, having posed such questions, begins to talk with the researcher-scholar in the effort to discover the terms in which his broad questions might be anwsered. From such discussion and reading, it seems to me that there are three kinds of terms (Figure 3) which almost by common consent can be regarded as fundamental ingredients of systems. One term is role; another is organizational form--the organizational setting or group in which each role is played; and the third is the subculture, which is the elaborated rationale for roles and their organizational milieu.

The experiences of researchers suggest three major roles. The Interpersonal role is actuated when persons seek each other voluntarily to deal with their own personal problems and anxieties--and progress from vague apprehension, fear, and doubt to a more public awareness and articulation of what they think and feel. One is in the Producer role when he actually seeks the means to achieve some end product or developmental process. The Citizen role, much abused in recent years, has never really fully caught on because it has always been mainly the prerogative of the Establishment. It is concerned with maintaining in the social order enough predictability and dependability that the other roles and their functions can be carried out. It has to do with maintinaing societal purposes, preventing chaos, and developing expectations, boundaries, and supports for activity.

With regard to the second term, the organizational form or kind of group within which the roles are found, friends (interpersonal role) come together in friendship or psyche groups; producers inhabit working teams, production units, project groups, and committees; and the role of citizen is perhaps most fully activated in a legislative assembly which considers the welfare of the whole society--reaching and enforcing agreement about the control of space, facilities, language, customs, etc. as required to keep the society in good health.

The third term, subculture, emerges with the insight that all working teams--production units, for example--operate on somewhat the same set of basic assumptions about the nature of production; about how to go about inventing the means to implement desired ends; about the uses of data to check and select among alternatives; about the diagnosis of experiences as a basis for hunches; and about the whole methodology of inquiry, reconnaissance, or action-research. In addition, there are philosophical assumptions, predispositions, and traditions which support production and which organize a very large backlog of internalized experience and knowledge that can be drawn on. The manager of a department in a motor company can talk to the manager of a union very easily because they both work in, and draw on, the same subculture, with the same understandings and alternative concepts about the management of men, the ways to differentiate among roles, etc. In spite of ideological differences, union and corporation managers share much the same know-how. In fact, I know of one training program to develop union leadership that was wrecked because as soon as the trainees were well enough trained (at the union's expense) in management skills, they were offered, and accepted, managerial jobs in industry.

	I	II	III
ROLE - FUNCTIONING PERSONALITY	FRIEND - ENEMY INTERPERSONAL	PRODUCER	CITIZEN
ORGANIZATION FACILITATIVE	PSYCHEGROUP	WORKING TEAM	FORMAL ASSEMBLY
SUBCULTURE	FELLOWSHIP - ETHNIC PERSONAL	TECHNICAL - MANAGERIAL	INSTITUTIONAL - TRADITIONAL
FUNCTION	DEVELOP PERSONAL EFFECTIVENESS	MEANS-ENDS KNOWLEDGE, CONSCIOUSNESS	VALUE COMMETMENT COMMONALITY DISCOURSE REAL
ADAPTIVE STRATEGY	ACTING OUT AWARENESS CONSUMMATORY	REFORMULATION RECONSTRUCTION INQUIRY	INDOCTRINATION SHAPING
PSYCHOANALYTIC	ID	EGO	SUPEREGO

Figure 3 - Three Subcultures

A producer in one team can understand production in many other teams, even those in foreign countries; but he may not understand or act effectively in the role of friend or citizen, for these have their own separate subcultures.

Educators have so far failed to realize that it is as part of the cultural context for role and organizational functioning that subject matter makes its connection to life. The managerial-productive subculture contains our knowledge of science and technology. This subculture also contains,much less explicitly, traditions, lore, common practices, and horseback common sense. A person cannot become effective in a role only through reading that which is explicit in books; he also must somehow assimilate a great deal of cultural "content" that is not written down, but which is nonetheless influential. In short, he must master not knowledge alone, but a subculturally defined way of life, many of whose features are handed down as from practitioner to apprentice or from master teacher to student teacher.

These terms--role, organizational form, and subculture--are ones that a social-science-oriented metatheorist might identify. To him, a complete system would be one whose functioning required the individual to perform in the interpersonal role, in the producer role, and in the citizen role, all three. If only one is required, as in some misbegotten sensitivity groups, many resources for individuals are denied; I can show you theoretically why such a system cannot last for very long--unless, of course, it becomes a police state. If the person is only in the producer role, as those who are trying to apply technology to education would appear to advocate, he will not become educated, because the system provides too meager a context for the student to learn knowledge in such a way that he can use it later. And those for whom classroom management is the major dimension tend to keep the kid in the citizen role--and to collapse that into an opportunity for cheap moralizing along the lines of "don't spit on the floor because if everybody did it, it would cause a flood." It takes all these roles together, within the same organization (classroom, school), to comprehend the complete functioning person.

So far, I have not mentioned the individual, except as he is represented by quasi-public behaviors in roles and organizations. The part not so represented is private and is not to be penetrated directly. It is inside the person and it cannot be torn apart, shredded up, or exercised a bit at a time through practice exercises. The core of the person is partially revealed through his performance in roles, and it is through these roles--and his need to find integration among them--that the private person is "reached."

The Varieties of Systems

Role, organization, and subculture are within the system. But now I can ask: What kinds of different systems, all of which have these properties, are there?

Figure 4 displays a variety of systems. I suppose the largest system would be conceptual: the notion of a world utopia. Next we identify the variety of societies: those that have a traditional-historical togetherness,

SYSTEMS GLOSSARY

1. (World Utopias - Conceptual)

2. Societal Supra-systems
    - Demographic - (traditional-historical)
        - National
        - Ethnic
        - Class
        - Religious
    - Institutional
        - Corporate: churches, schools, industries
        - Extended: professional associations
    - Ecological
        - Neighborhood
        - Tribes, gangs, clubs

3. Organizational Systems
    - Prototype Schools:
        - Storefront, forum, microsociety factory, ghetto

4. Group Subsystems (and roles)
    - Formal assembly - citizen
    - Working parties - producer
    - Psychegroups - friend, enemy

5. Individual: Personality System - Integration

6. Organ Systems - Homeostatic, growth

7. Molecular systems - Energy, tendencies

Figure 4-- SYSTEMS GLOSSARY

a sense of national, ethnic, religious, class, (etc.) solidarity; the institutional ones, such as churches which, wherever they are, develop similar characteristics and a common subculture; and extended networks, such as professional associations. Then there are accidental or ecological systems, as when people living in a neighborhood have to develop common agreements about how to use their common space--streets, playgrounds, official services, etc. Then there are the tribes, gangs, and clubs, which respond to interpersonal needs, but develop the features of full-feldged organizations. These societies are systems that evolve naturally. The roles are not sharply defined and legislation is by implicit agreements which are drafted into, rather than consciously developed from, formulated alternatives. The subcultures are often pluralistic, with unresolved conflicts and potential options; thus, there are some resources available for change.

As teachers and administrators, we are more concerned with the next smaller kind of system: the organization--more in a particular school, not in the generic school. The particular school might be a storefront school, typically going out of business after eighteen months; the forum school, existing to keep controversy alive; the microsociety, which is complete and highly adaptive; the factory school, which lives on its habits; and the ghetto system, which can be maintained only by force (or the threat of force) from the "outside." At any rate, whatever the nature of a single school, we shall consider it to be composed, as the table shows, of subparts--formal assembly, working party, psyche-groups--and the three roles that go with these. Although levels three and four are the intervention points, management has to understand that every educational institution is imbedded in a community which, in turn, is imbedded in larger societies , so that the systems nest within each other and even the smallest group receives influences from all those larger systems within which it is imbedded. This imbeddedness makes available the resources of the larger societies, and the stability of the organizational system depends on the kind and quality of its functional relationship to those containing societies.

We can conceive smaller systems such as organs and molecules, but I put them in just for fun. But the four basic questions--of completeness, vitality, internalization, and balance--can be asked of all these systems, from the conceptual world to the single molecule.

With respect to human systems (at least), I have said we must look at the three subcultures with their appropriate organizations and roles. Moving on (from structure to process), we must think about activities, for life in a system is a sequence of activities. A major question is: How do you tell when to move up or down, from one subculture to another? The tensions between the subcultures--the need to reconcile assumptions and attitudes from one to the other--drives a great deal of learning. Thus one cannot act fully and completely (purely) like a friend when his major functional responsibility is that of producer. One has to learn when to put the emphasis on each and how to meld them in mixed or rich activities. The fact that as a producer I get very impatient because society will not support me or places its boundaries too close in, so that I cannot make use of my know-how, creates tensions. And I have to be able to carry my grievance from the productive to the citizen subculture, translating it from technical to societal levels or frames of reference.

Besides moving from one subculture to another within a system, it is also possible to move from one system to another within the same subculture. Figure 5 proposes that it will be inadequate to think only of the school in isolation. The students and teachers live in the neighborhood and they bring the neighborhood subcultures into the school; thus, the subcultural system of neighborhood and school overlap. Then, one can imagine the community as a larger system which overlaps both school and neighborhood systems and, finally, of the even larger societies which contain them. The overlapping containing systems provide constraints on the school because their values have to be taken into account with the school, and yet the school has little direct influence on the larger society. We shall have to consider transactions between systems as well as between cultures within one system. Figure 5 is a grid on which one might plot all the kinds of transactions that our metatheory allows for.

The Adaptive Dynamic Cycle

The smallest intelligible universe for understanding a system must contain interactions within the system and transactions between the system and its actual or internalized environment of containing, overlapping, and adjacent systems. The minimum set of processes that can be dynamic and self-correcting through feedback would have to involve two subcultural levels and two systems. There are three possible basic, minimum, dynamic cycles. They are shown on Figure 6. Two of the cycles, those involving the interpersonal culture, I have labeled the "climatic" and the "generative." These are dynamic, these have vitality and driving force. The "instrumental" cycle, connecting the productive and the societal, leaves out interpersonal emotion and has no access to the private personality. This cycle has no source of creativity; it is rational and technical and it cannot operate by itself.

The "parts"--role, organization, and subculture--are terms for describing the structure of systems. The dynamic cycle, composed of interactions within parts and transactions between parts, represents the processes of systems. Let us put a little more flesh on the dynamic cycle. Figure 7 shows the three subcultural levels which include the functioning individual and, beneath these, the individual personality which, although we cannot reach it directly, contains the energy and the private life, some of which is revealed in the roles. When the person is with his friends (either in fact or in spirit), he talks about what bothers him--his feelings and his awarenesses. Some of these botherations are engendered in his role as producer; they have to do with tensions produced on the job. As a result of the reassurance, support, and stimulation of his friends, he comes to terms with his botherations. Instead of remaining in the form of free-floating and vague apprehensions, they are translated into focused and practical suggestions whose form is appropriate to the world of work (productive subculture). The action-oriented ideas, if accepted in the production unit, are then worked over, along with other suggestions from other persons, and

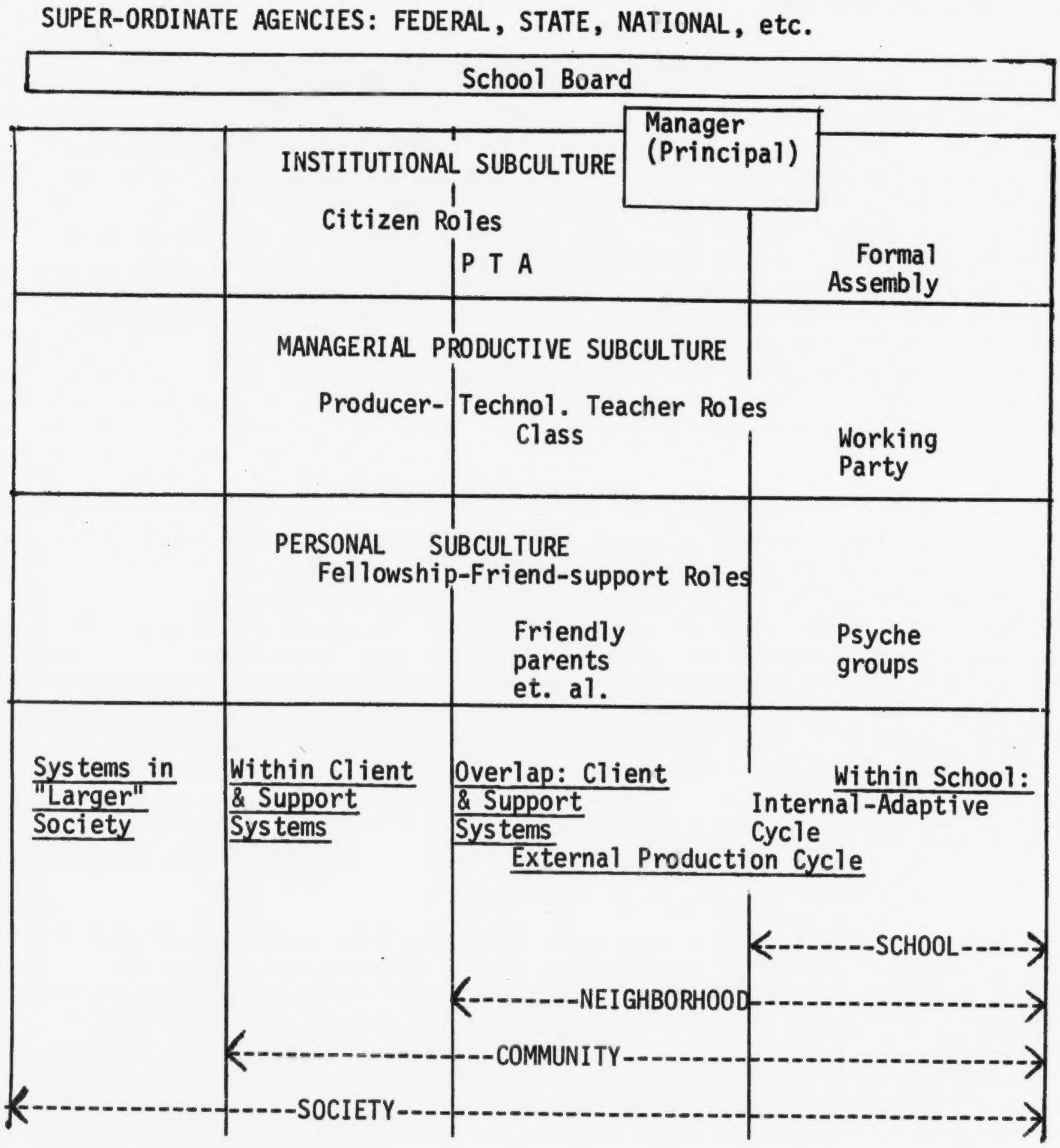

SUPER-ORDINATE AGENCIES: FEDERAL, STATE, NATIONAL, etc.
School Board
Manager (Principal)
INSTITUTIONAL SUBCULTURE
Citizen Roles
P T A
Formal Assembly
MANAGERIAL PRODUCTIVE SUBCULTURE
Producer- Technol. Teacher Roles
Class
Working Party
PERSONAL SUBCULTURE
Fellowship-Friend-support Roles
Friendly parents et. al.
Psyche groups
Systems in "Larger" Society
Within Client & Support Systems
Overlap: Client & Support Systems
Within School: Internal-Adaptive Cycle
External Production Cycle
SCHOOL
NEIGHBORHOOD
COMMUNITY
SOCIETY

Figure 5--SYSTEMS GRID FOR PLOTTING EVENTS IN EXTERNAL PRODUCTIVE SYSTEM

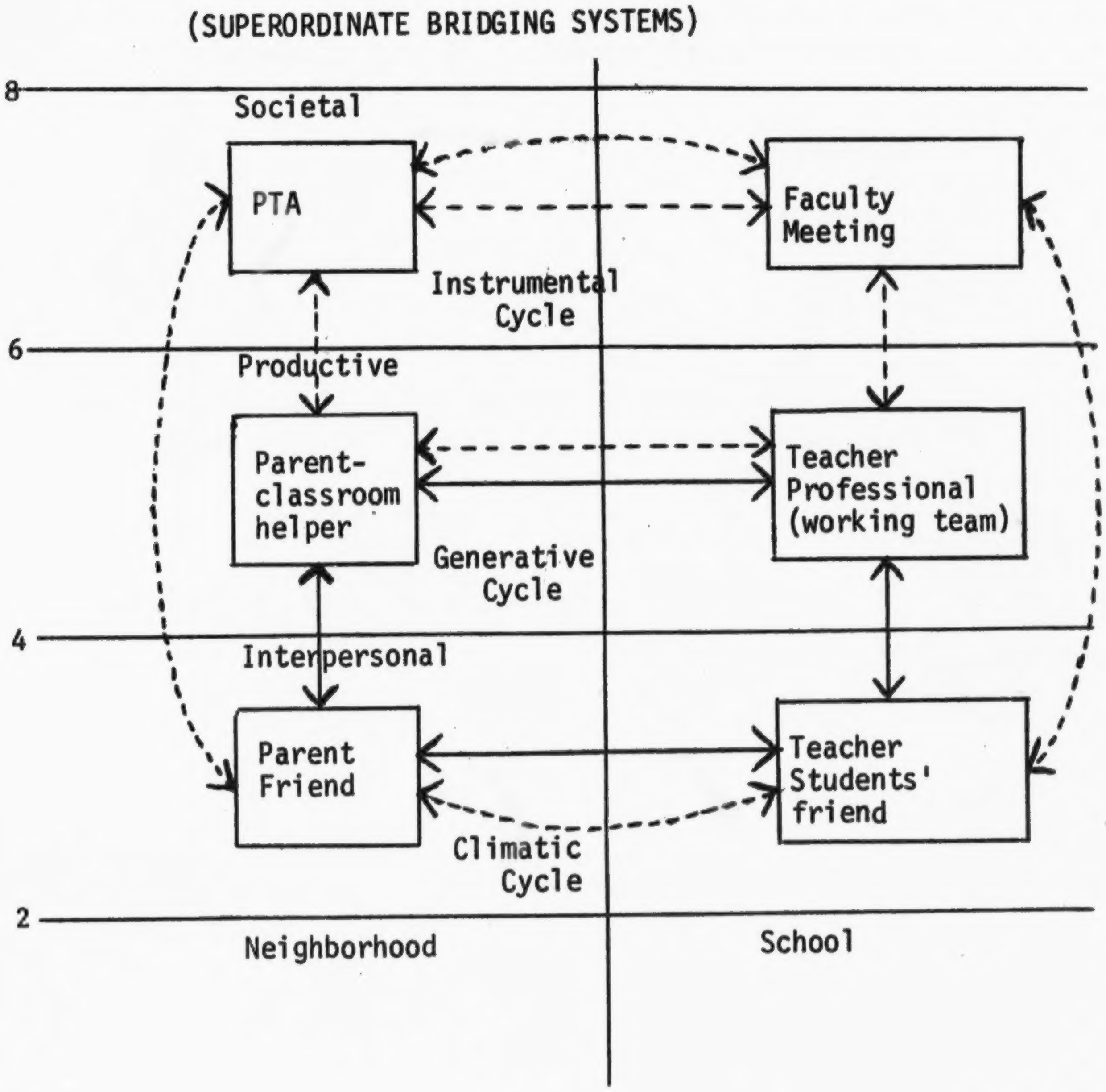

(SUPERORDINATE BRIDGING SYSTEMS)
8
Societal
PTA
Faculty Meeting
Instrumental Cycle
6
Productive
Parent-classroom helper
Teacher Professional (working team)
Generative Cycle
4
Interpersonal
Parent Friend
Teacher Students' friend
Climatic Cycle
2
Neighborhood
School

Figure 6--THE THREE BASIC CYCLES BETWEEN SUBCULTURES AND SYSTEMS

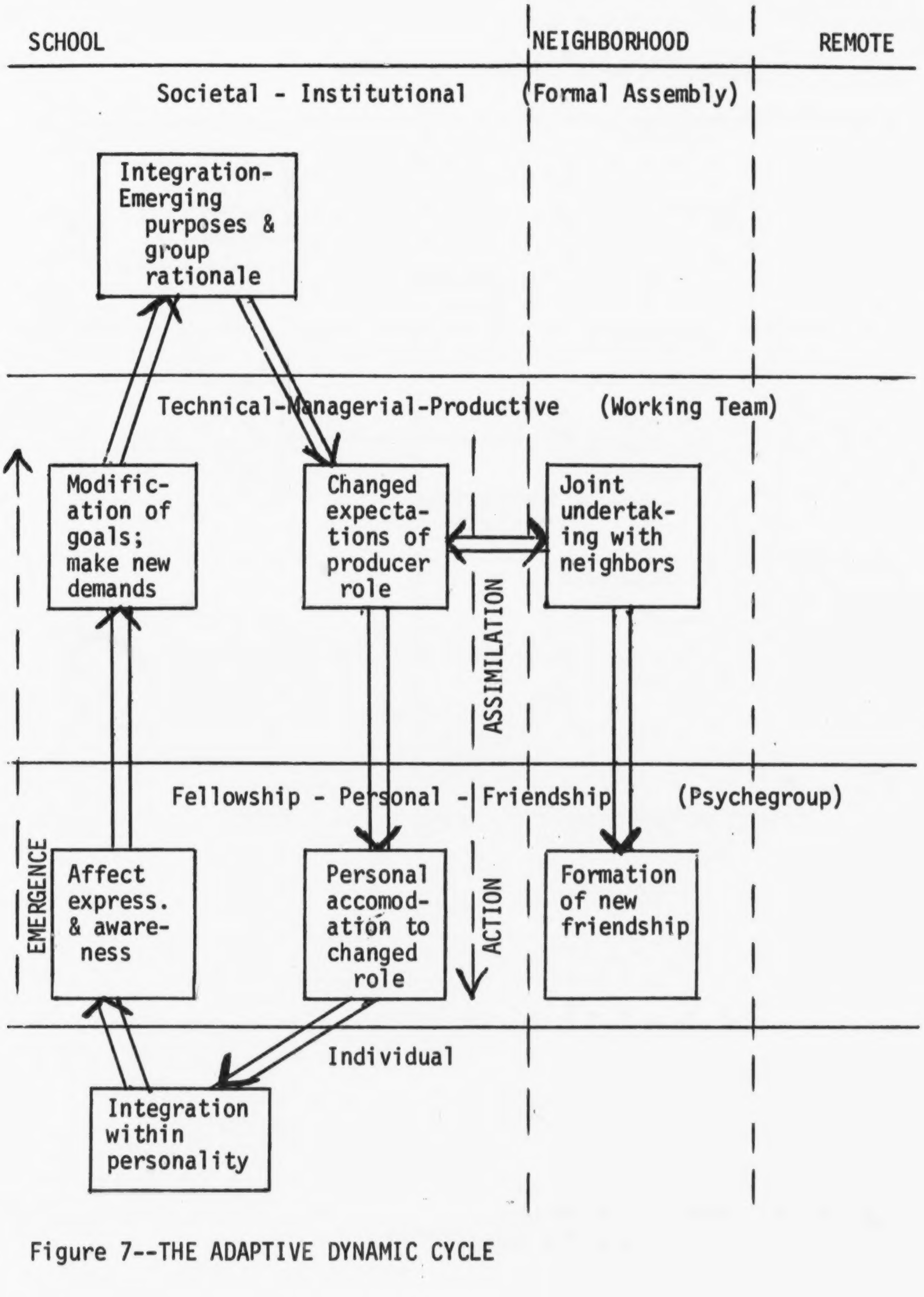

SCHOOL
NEIGHBORHOOD
REMOTE
Societal - Institutional
(Formal Assembly)
Integration-Emerging purposes & group rationale
Technical-Managerial-Productive
(Working Team)
Modification of goals; make new demands
Changed expectations of producer role
Joint undertaking with neighbors
ASSIMILATION
Fellowship - Personal - Friendship
(Psychegroup)
EMERGENCE
Affect express. & awareness
Personal accomodation to changed role
ACTION
Formation of new friendship
Individual
Integration within personality

Figure 7--THE ADAPTIVE DYNAMIC CYCLE

are transformed into requests or demands on the larger organization. The demand is likely to be in the form of requests for grants of power or resources. The larger organization, through its formal assembly, steering committee, or executive supervisory units, must now rearrange its priorities and goals; in so doing, it revises its expectations of the productive units --and of the producer roles. Such modifications are transmitted downward in the form of changed expectations of how people will work. Although the workers initiated the action to begin with, what comes back down may not be quite what they had in mind. (Even if what comes back is exactly what they requested, they now feel pressures from the society itself to make the changes, instead of merely worrying or fantasizing about making changes.) If the required changes are significant, they will not be easy to make; there will be risks and adventures, only some of which can be and have been forseen. Thus, the producers will need their friends again to help them deal with their feelings about the changes; as they deal with these, they may have to take another look at themselves--the private operation--and integrate the changed expectations of roles into their core of "personality."

This is what I think of as the dynamic cycle of the organization. And we can now see that to have this cycle, the organization must be complete in all its parts. As long as this dynamic cycle is churning with vitality, it can accept feelings, proposals, values, and purposes. It can see what to do with technology, which groups to refer it to, and in what roles people should do what.

I have portrayed this dynamic cycle in terms of the individual getting into role conflicts which he must resolve. But the dynamic can also be seen in terms of the whole system. The inputs from individuals move up the "emergent" side of the cycle and confront the system with demands for new alternatives. The tendency is to fragment the system, causing it to disintegrate into whatever each individual wants. Such tendencies are centrifugal. But these are countered by tendencies of the organization to maintain itself. It is required to take the individualistic influences into account, to accommodate and reconcile them, and to modify operation in such a way as to coordinate them in mutually helpful or cooperative effort. Such tendencies are centripetal, pulling the society together. In system terms, the tension that drives the adaptive dynamic cycles comes from the need to strike a balance between the centrifugal and the centripetal forces. The system tensions span the whole gradient as well as being manifested between any two adjacent subcultures.

Once the dynamic, system-wide cycle is churning, it is possible for the action-assimilation processes to loop through actual rather than merely internalized neighborhood systems. Thus, the faculty might decide to have kids work with adults in the community--for example, to survey the community as a way to learn about it. By the time the decision about this new policy has moved down the action-assimilation side to the productive or classroom level, transactions will commence across systems: teachers and students in the school will engage with colleagues outside the school in the joint undertaking. As they work together, some of them would become friends, with whom to share feelings and accept emotion; these new psyche-group influences would enter the emergent side of the cycle at the interpersonal-cultural level. Thus there would be another loop that went out from the productive action-assimilation side, into the neighborhood, and back through the interpersonal subculture into the emergent side of the cycle. There are many such possibilities of cross-system loops, and the more such loops there are, the more meaningful is the organization, the greater and more valued its functions, and the more secure its stability and chances for survival through its manifold interdependencies with the community.

Some Action Scenarios

I would like now to apply these concepts to practice. But first, it might be useful to review the course of our inquiry so far. I have compared practitioners' intuitions about various enterprises and I have conceptualized questions important to all systems: completeness, vitality, dynamics, etc. I have scanned the research literature to get some ideas about useful variables: categories of roles and organizations to work with and in terms of which to understand real systems. Having tentatively decided on terms for both structures and process, I am now the guy in the middle of Figure 1: I have internalized the various concepts and want now to think practically about some action or learning enterprise.

According to the analysis so far, and with the help of continuing trialogues, I should be in a position to write a scenario (as we future-forecasters call our projections or rehearsals of what will have to happen to accomplish our purposes). Suppose, for example, I want to facilitate school-wide acceptance of a pilot innovation such as one parent helping one teacher within a class (Figure 8). The principal might hear about it and think it was a pretty good idea. Can he get the rest of the school to adopt the idea? Let us see what might be involved in terms of the framework we have been developing. Let us start at the beginning: the parent came to class and the teacher said, "OK, how nice to see you, Mrs. Jones. Will you help Johnny read his book?" The parent sits with Johnny and helps him. The teacher and parent thus enter into a modest co-teaching relationship within the productive subculture. As they work, they develop friendly feelings for each other and expand their trust in each other, thus moving into the friendship relationship--and subculture. This completes the basic, if miniature, dynamic cycle. This little cycle across subcultures and systems hums along for awhile, and we can anticipate a number of things that will happen. The friendly parent, enjoying her developing friendly and productive relationships with the teacher and class, will probably tell others about it. And the most likely others are her friends in the neighborhood or community. Thus, involvement starts to spread outside the school. Within the school, the teacher talks with his colleagues and incites their interest. Some of them even come to see the operation. Rumors spread through the school and the faculty is split between those who think it is a lousy idea and the others, equally ignorant, who think it is great. After the teacher has jawboned for awhile with his colleagues in the same grade level or subject department, the suggestion is made to the total faculty--at the legislative level. Assuming that the faculty really does legislate things (you can put anything in a scenario), it may set up an _ad_

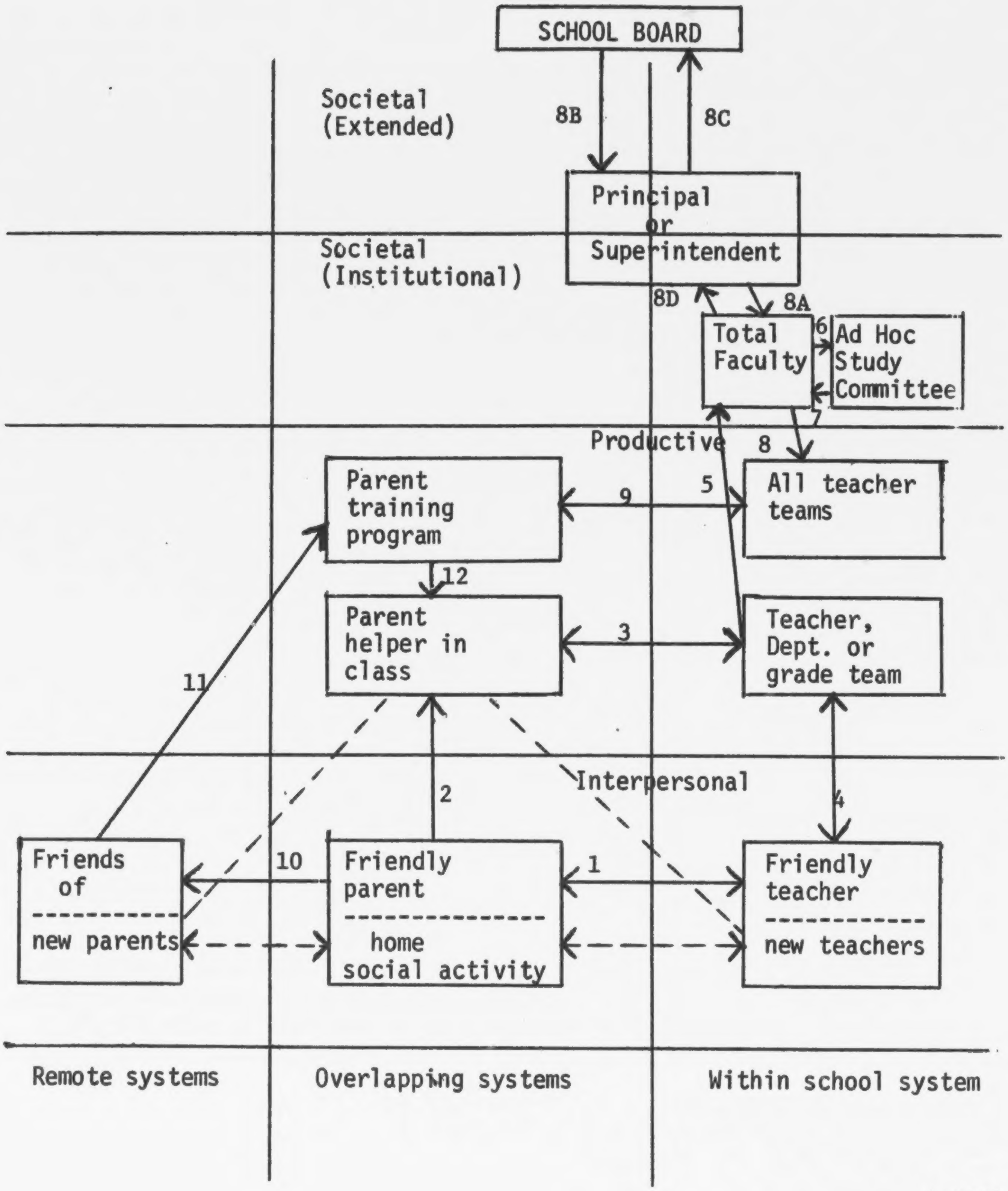

SCHOOL BOARD
Societal (Extended)
8B
8C
Principal or Superintendent
Societal (Institutional)
8D
8A
Total Faculty
6
7
Ad Hoc Study Committee
Productive
8
5
9
Parent training program
All teacher teams
12
Parent helper in class
3
Teacher, Dept. or grade team
11
Interpersonal
2
4
Friends of
new parents
10
Friendly parent
home social activity
1
Friendly teacher
new teachers
Remote systems
Overlapping systems
Within school system

Figure 8--SCHOOL ADOPTION OF PILOT INNOVATION
(Classroom Helpers)

hoc study committee to look into the matter and bring in recommendations. Assuming the committee reports back with some enthusiasm, the faculty may go on record as being in favor of school-wide use of helpful parents. Grade or department groups of teachers will be asked to figure out their own plans. The plans will be put together into a joint approach--setting up, let us say, a parent training program. The friends of the parent already involved will flock into the training program and then into the classrooms, thus adding a large system-wide cycle onto the little one-parent, one-teacher pilot cycle. (I have left out a little piece of the picture: the involvement of upper levels in the hierarchy. Since it is projected to use parents in ways which probably violate existing school board regulations covering liability, credentials,etc., the school board has to modify its regulations in order to legitmize the innovation. The principal wants to be involved because it is something he can talk about at principals' conferences; it puts gas into his professional tank.)

Beginning with the same friendly parent and teacher, you can imagine other scenarios. Suppose that the teacher is unable to interest his grade or subject colleagues. In that case, let us consider a loop outside the school (Figure 9). Let us imagine the parent who enjoyed the helping experience telling friends and forming with them a self-appointed parent committee to take the suggestion to the PTA. The PTA is the opposite number (in the community) of the total faculty (in the school). The PTA studies the suggestion and makes a recommendation to the principal, who in turn directs the faculty. Just for good luck, the PTA probably will also go after the school board too. (That's called having two strings to your bow.) Thus we have top-down communication within the school. The total faculty has to figure out how to implement the demand from above. Many a teacher who cannot get his ideas adopted within the school talks sort of haplessly to parents, hoping that some magic will happen, such as development of an outside loop, which will circumvent the structures and processes missing from what should have been an active, adaptive inside cycle.

It is also possible to imagine another ending. Start again with the same unitary basic system of teacher and parent (across systems) and friends and producers (across cultures). Suppose again that the emergent side of the cycle is stalled within the school and that the parents again form an action committee. But suppose they decide not to bother with the school (Figure 10); maybe they feel they are not wanted there. They then must seek support for their hopes outside of the neighborhood in the larger systems of community or town. They take the idea of parent helpers to a newspaper editor. Assuming that the newspaper is looking for an opportunity to reshape its image to look more like a friend to the poor, the underachievers, and the dispossessed, it will run a series of stories, thus spewing the information out into its societal-institutional surroundings--churches, clubs, etc. If the series keeps the proposal boiling long enough, the school board will begin to think it senses a new "public opinion" and will take action in the form of a top-down demand on the school.

A recent gimmick which makes this kind of outside action loop easier is possible through the existence of Federal groups and agencies. If any school

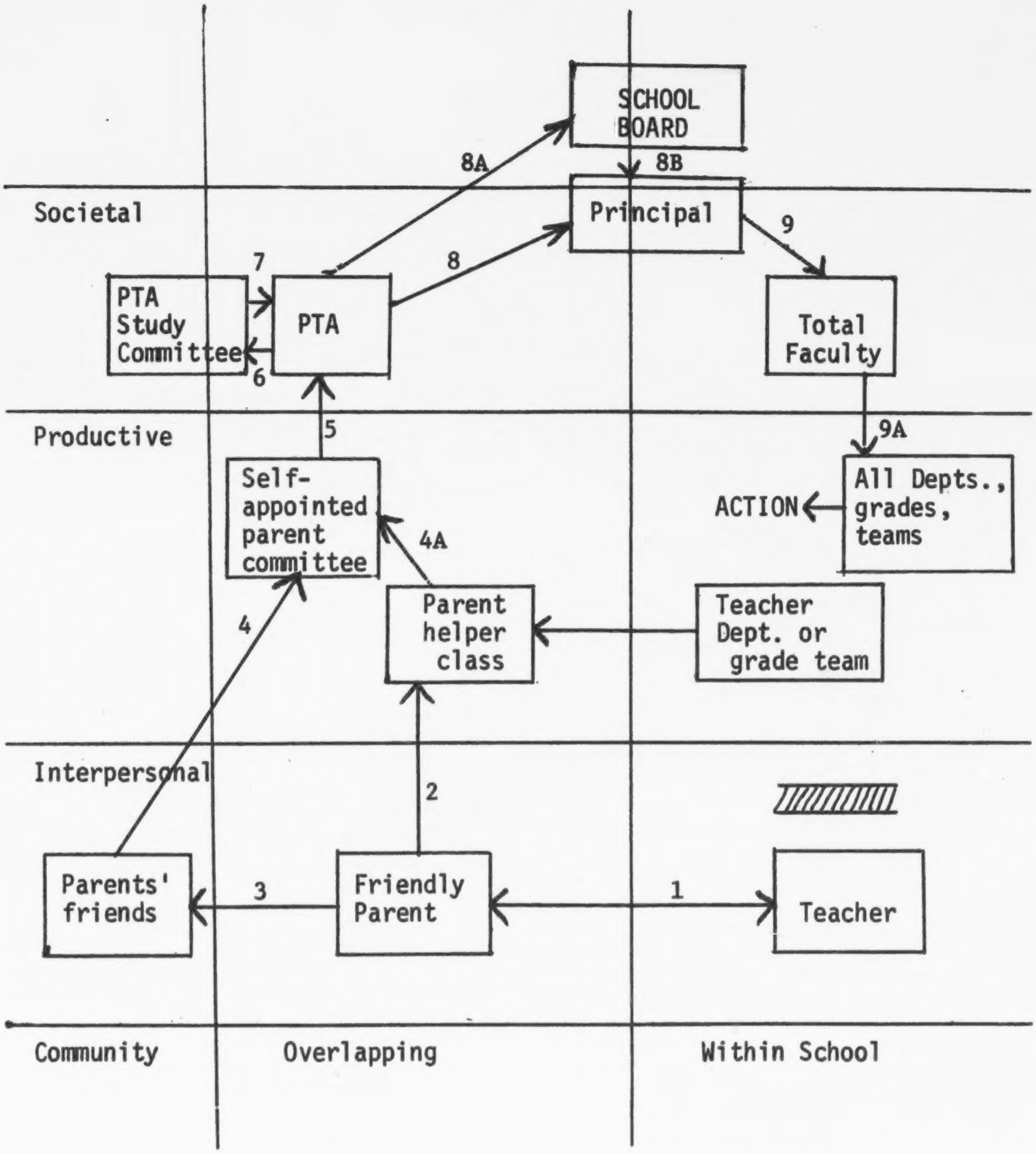

SCHOOL BOARD
8A
8B
Societal
Principal
9
7
8
PTA Study Committee
PTA
Total Faculty
6
Productive
5
9A
Self-appointed parent committee
ACTION
All Depts., grades, teams
4A
Parent helper class
Teacher Dept. or grade team
4
Interpersonal
2
Parents' friends
3
Friendly Parent
1
Teacher
Community
Overlapping
Within School

Figure 9--MOBILIZATION OF PARENT PRESSURE ON SCHOOL

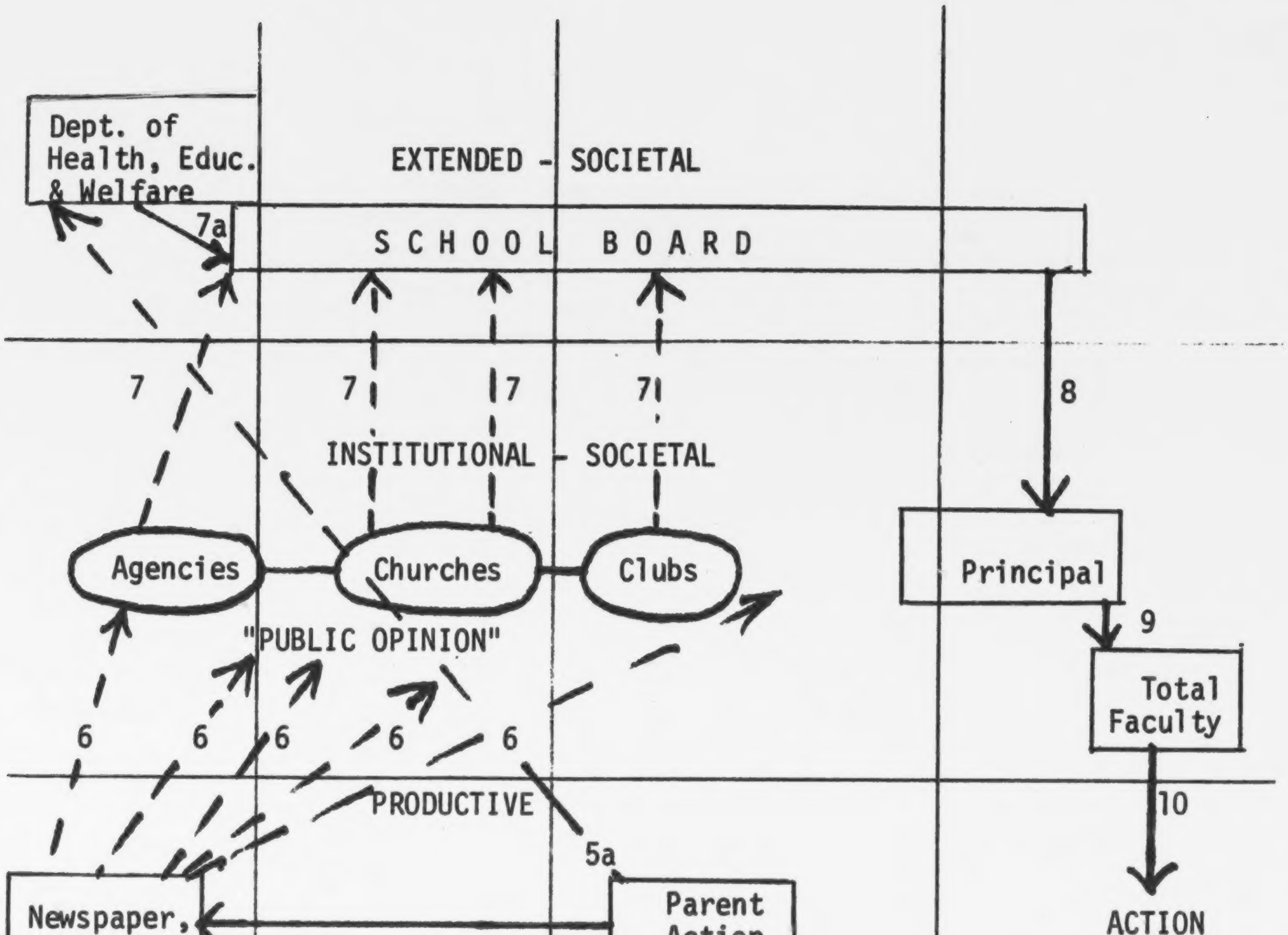

Dept. of Health, Educ. & Welfare
EXTENDED - SOCIETAL
7a
S C H O O L B O A R D
7
7
7
7
8
INSTITUTIONAL - SOCIETAL
Agencies
Churches
Clubs
Principal
9
"PUBLIC OPINION"
Total Faculty
6
6
6
6
6
PRODUCTIVE
10
5a
Newspaper, Media
5
Parent Action "Committee"
ACTION
4a
Parent Helper, Class
1a
Teacher Group
4
INTERPERSONAL
2
Parents' Friends
3
Friendly Parent
Teacher
1
TOWN
COMMUNITY (SUPPORT)
OVERLAPPING NEIGHBORHOOD
WITHIN SCHOOL

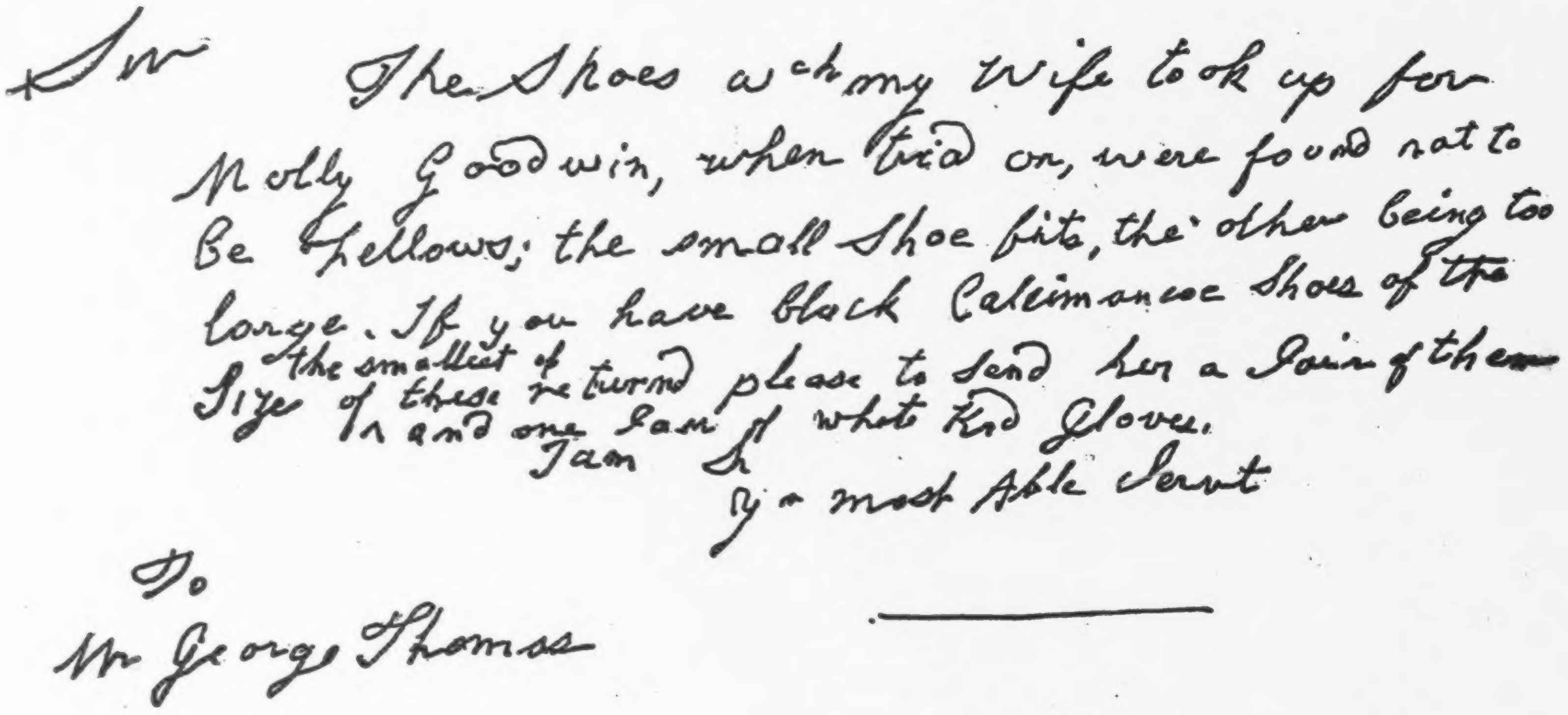
Fig. 10 MOBILIZATION OF COMMUNITY PRESSURE

board accepts Federal money for some purpose, then any citizen can always write directly to the office in Washington and allege that the money is being misspent. Then the Federal team--if it is looking for an occasion to project _its_ image, may come down, study the situation, and pass an order, thus bypassing the development of public opinnion. This is more effective in the short term, but less effective in the long range because it circumvents the dialogue that otherwise would have to go on in order to make the school board act, and this sort of dialogue is needed to develop widespread expectations that will support and bolster action when it finally occurs.

A Classroom Scenario

We have been concocting scenarios to illustrate how the ideas of subcultures, organizational forms, and roles can be used to help one visualize a course of action by plotting it on a grid, dissecting it, etc.

The same scenario-writing process can refer to events within a system, as in a classroom. Let us very briefly sketch a classroom scenario. Teaching begins with the arousal of individuals through suitable confrontation--as, for example, presenting them with an interesting document (Figure 11) and requiring them to construct a picture of the community from which this document came. They are, at this point, merely a collection of individuals, and their roles are mostly "internal" and covert. Assuming the confrontation (Box 1, Figure 12) does arouse them, they will have some feelings and a need, or (at least) a readiness, to share these with friends, thus forming into psyche-groups (Box 2). Here they talk about their feelings in the confrontation. Then the teacher lists their ideas (Box 3), thus moving up into the productive subculture; she invites them to interpret the list of speculations (Box 4), arriving at a shared impression of the hypothetical community. Then she confronts them, as individuals, with this shared impression (Box 5); again this engenders emotion, they talk with each other (Box 6), and then the class surveys all the different ideas (Box 7). They look "behind" this list to common concerns (Box 8) and, moving into the societal level, reach consensus on what is interesting to all of them that they can investigate (Box 9). This is the emergence of "common purpose," an integrating centripetal authority that justifies the group's working together. Now a bunch of demands, logically generated by acceptance of the common purpose, move down. The purpose, which came from the kids, has been externalized as a group goal capable of making demands on them. They have to break down this common concern into subproblems (Box 10) and list ways to go at them (Box 11); the metatheorist is talking to the researcher at this point. There is oscillation back and forth between the productive analytical level and the interpersonal feeling-expressive level: how do they feel, individually (Box 12), about the demands being developed logically? Each student alternates projecting what needs to be done in the class (Box 13) with accommodating through friends to the fact that he will actually have to do some of these things. After several such switches of cross-cultural episodes (Box 14), each person has a plan to which he feels committed and they all get to work (Box 15). The results of the individual projects are polled in a further group activity through which individual findings are patterned into a larger conceptual whole to which everybody



Sir The Shoes wch my Wife took up for
Molly Goodwin, when tried on, were found not to
Be Fellows; the small Shoe fits, the other being too
large. If you have black Calimancoe Shoes of the
the smallest of
Size of these ^ returnd please to send her a Pair of them
^ and one Pair of white Kid Gloves.
I am Sr
Yr most Hble Servt

To
Mr George Thomas

Figure 11.

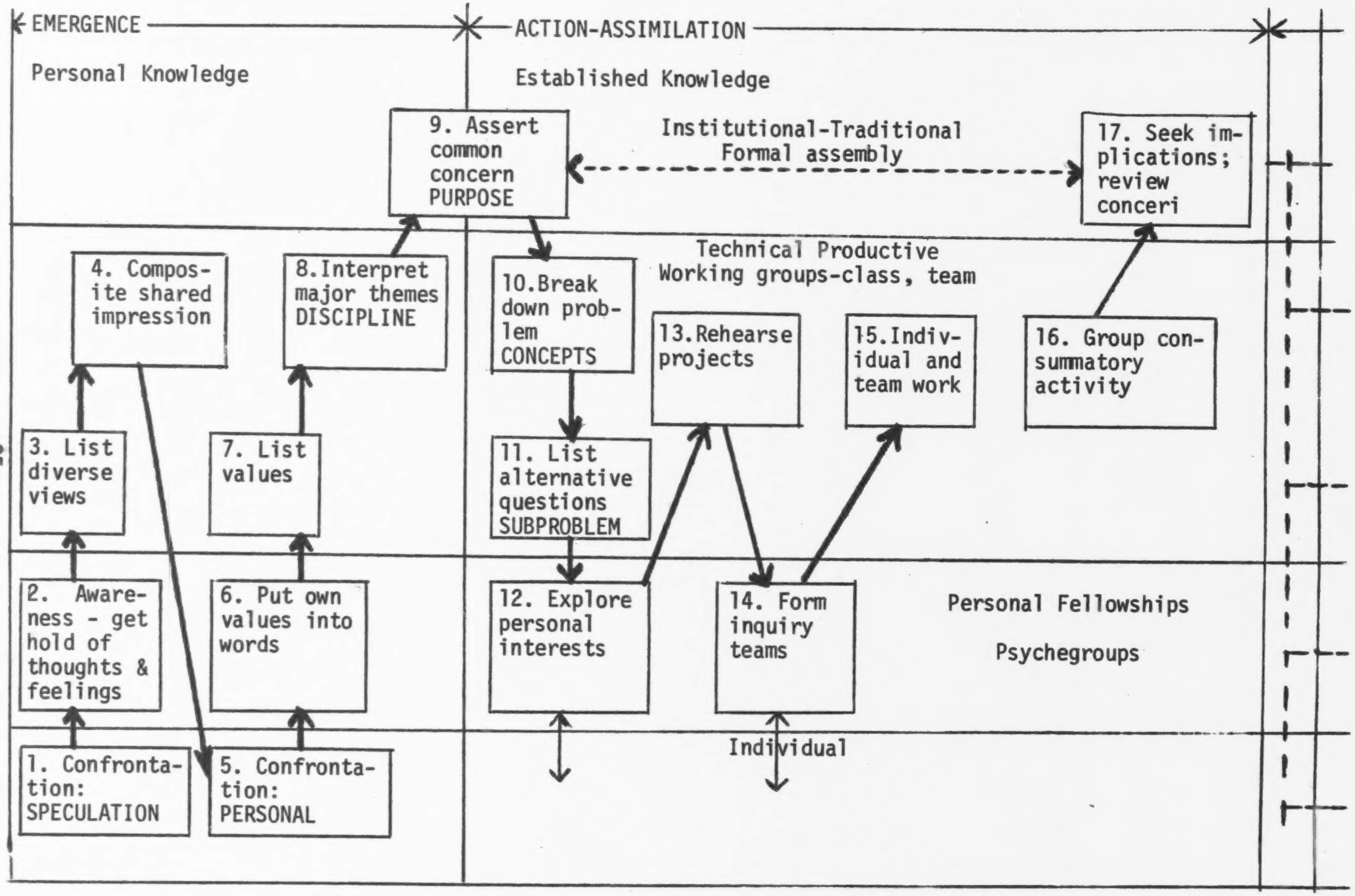

EMERGENCE
ACTION-ASSIMILATION
Personal Knowledge
Established Knowledge
Institutional-Traditional
Formal assembly
Technical Productive
Working groups-class, team
Personal Fellowships
Psychegroups
Individual
1. Confrontation: SPECULATION
2. Awareness - get hold of thoughts & feelings
3. List diverse views
4. Composite shared impression
5. Confrontation: PERSONAL
6. Put own values into words
7. List values
8.Interpret major themes DISCIPLINE
9. Assert common concern PURPOSE
10.Break down problem CONCEPTS
11. List alternative questions SUBPROBLEM
12. Explore personal interests
13.Rehearse projects
14. Form inquiry teams
15.Individual and team work
16. Group consummatory activity
17. Seek implications; review conceri

Figure 12.

can react (Box 16). This final activity is then diagnosed to see what kind of starting point it provides for possible new sequences of activity and investigation (Figure 13).

This brief sketch is intended simply to show that the same kind of analysis is just as applicable to a classroom oriented to learning as it is to the machinations of a school within a community.

After this brief exposure of the terms and applications of the trialogue, it may be appropriate to declare my practical hopes. Since a practical hope is a hope for improvement of practice, let me now mention some practices that the concept of the trialogue calls into serious question. And, since our need to think is generated by our sense of problem, the practices to consider are those meant to solve problems.

When problems arise in a system or organization, one set of practices assumes that the difficulties are interpersonal and that some form of sensitivity training or therapy is in order. Another set of practices assumes that there is conflict in role expectations and that analysis of job requirements and a more up-to-date table of organization will do the trick. Another set of practices assumes that the trouble is that people simply do not know how to work in groups, so some sort of training along these lines (very common in industry) is called for.

Our trialogue suggests to us that the individual, role, and working organization are merely the agencies through which the more "real" or underlying problems are manifested, but they may not be the source of the problems. Therefore, our problem-solving efforts are likely to be merely symptom-suppressive. According to this view, the source of the "problems" is in subcultural inconsistency, conflict, or incongruence--and this tension is also the source of growth possibilities. Problems, then are a sign of readiness or need for growth, and problem-solving is the process of clarifying underlying assumptions in the "problem" situation, hopefully arriving at a stronger commitment to more precisely defined organizational goals.

The trialogue is a device for placing "problems" in their proper context and thus enabling us to see them "whole," therefore giving us many more handles for getting hold of them. The faith that we can always somehow do something to improve troublesome situations has a condition--one that we are too prone to forget--attached to it. That is that we give ourselves the mental leeway to understand the problem comprehensively (e.g., subculturally); after that, all we need is the guts and imagination to dig in wherever our understanding shows us a practical point of entry--through personality or roles or groups or "outside" agencies or environmental changes or any combination, as the saying goes, of the above.

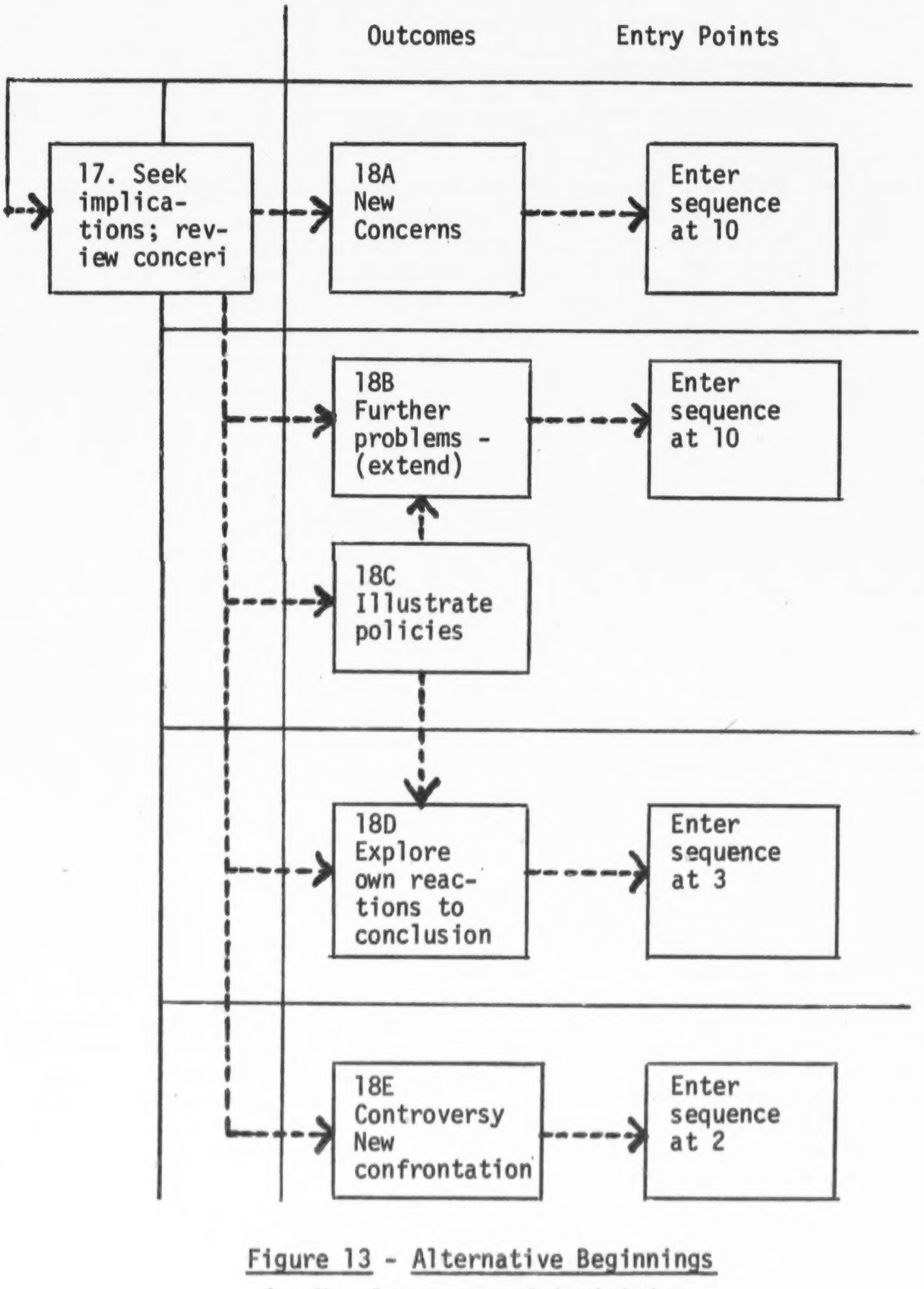

Outcomes
Entry Points
17. Seek implica- tions; rev- iew conceri
18A New Concerns
Enter sequence at 10
18B Further problems - (extend)
Enter sequence at 10
18C Illustrate policies
18D Explore own reac- tions to conclusion
Enter sequence at 3
18E Controversy New confrontation
Enter sequence at 2

Figure 13 - Alternative Beginnings for New Sequences of Activities

FORMAL PROPERTIES OF INSTRUCTIONAL THEORY FOR ADULTS

JOHN F. THOMPSON

How do you feel when you are the instructor and meet a group for the first time? I seldom approach a group of students for the first time in which I did not feel humble. Yes, though I have faced hundreds of classes, short courses, workshops, and special groups, butterflies still fly in my stomach when I face a class for the first time. Perhaps you have had a similar feeling. My humbleness stems from several feelings and values that I possess. I feel much like Carl Rogers in that I have very little to teach anybody but much to learn from any group of people. I value people very much and seldom feel comfortable in asserting a high degree of control over them. To suggest that I have a lot to teach, in the formal sense of that word, is to suggest that I "know" and they don't "know"; that if they pay attention to me, I can bring them up to my knowledge level; and I will benefit more than they from any interaction between us. I basically reject such notions. In preparing this paper, I find it necessary to review and interpret the literature of adult instruction. After the review I offer some inductive generalizations concerning adult instruction gained from that review. In the final section, I relate to you some of my feelings and opinions about my theory of instruction.

In its scientific meaning, the term theory refers to a set of propositions inductively derived from empirical findings. Thus a scientific view of a theory of instruction would set forth a series of statements, based on sound replicable research, which would permit one to predict how particular changes in the educational setting would affect pupil behavior (Gordon, p.3). This was the original intent of this paper. It soon became evident that adult instruction as an interest area within the discipline of adult education was not refined to the point that one could set down statements which prescribe the most effective ways of achieving the intentions of the adult instructor and his client.

There are a number of definitions of the term instruction in the literature. Erickson (p. 144) and Gordon (p. 3) are examples. Gordon states that "instruction refers to the activity which takes place during schooling and within the classroom setting. The term includes both material and human variables. Instruction is differentiated from teaching in that instruction encompasses more of the situational elements. Teaching refers primarily to the human interaction between teacher and pupil (p. 3)." This paper was guided by Jahnke's more general definition. Instruction, according to Jahnke, refers to any environmental circumstances which establish the conditions of learning (p. 181). Gagne (1967B) states that the function of instruction is the control of the external conditions of the learning situation (p. 296).

Major Limitations of the Art Form

As indicated above instructional theory for adults has not advanced as far as it might. There are four general reasons that account for this lack in advancement and refinement.

1. Adult instruction is long on empiricism and relatively short of theory. We have accumulated vast amounts of experiences in working with adults but have not been able to meaningfully interpret these experiences for two reasons. The first is that instruction is a complex phenomena and our methodologies are simple: This increases the likelihood of pedestrian findings in our research efforts. The independent measures of instruction, such as lecture, television and independent study are, for comparative purposes, a very gross kind of descriptive designation (Siegel, p. 28). As a note of interest, participation studies,one of the bread and butter areas of research for adult educators, suffer the same malaise. A recent research effort by Martin has shown one way that progress may be made. Those adult educators interested in instruction may desire to consider a similar approach to that followed by Martin. Second, our language is quite imprecise and undifferentiated from paradigms and models.

2. Adult educators tend to act as if there was a classical instructional theory. If adult educators are in fact seeking to establish a classical instructional theory they should be advised to abandon such efforts. An example of a similar growth problem may be found in elementary and secondary educators and their attempts to formulate a classical learning theory. The literature of formal elementary and secondary schools reflected the conern for a classical learning theory until the late 1950's. In the book _Theories of Learning and Instruction_, Gage noted that instead of generalized theories of learning, the schools were increasingly giving attention to theories of particular kinds of learning. In general adult education has not given attention to _particular kinds of instructional theory_ to facilitate the _particular kinds of learning_.

3. Only a limited number of investigations in adult education have attempted to follow the theme of maximum effectiveness of a particular setting.

At the present time the instructor of adults has a choice of developing his personal theory of instruction or of adapting an instructional theory developed for other clientele groups to the needs of adults. In either case one will need to assess his theory of instruction. Gordon (1968) suggests that a theory of instruction can be assessed using ten criteria. Among his criteria are such ideas as instructional theory must:

a. not only explain past events but also must be capable of predicting. Most of the theories of human behavior look backwards and describe past events in a _post hoc_ fashion. A theory of instruction for adults must be capable of predicting the probabilities of change in student performance under stated conditions. I would predict, for example, that the instructor of a two week workshop preparing teachers of medical record librarians who permits the future teachers to teach, in a workshop setting, small bits of a problem using a particular visual aid will have 100 percent of the teachers use that visual aid once they enter their new teaching assignments.

b. be capable of generating "hunches" for the instructor to follow. If I criticize a member of a minority group in front of his peers for not performing a task correctly he will likely quit.

c. must be congruent with empirical data. If the facts are that adults learn best when they have an opportunity to practice a new skill immediately after its acquisition, then a possibility for practice must be built into our theory of instruction for adults.

d. define its terms.

e. set the boundaries within which it operates.

f. be internally consistent and verifiable.

4. Adult instruction is too often a copy of the secondary school teacher model. Essert and Spence (1968) identify three major systems of education. These are the family, the sequential unity system (formal schools, including colleges), and the complementary-functional system. Most of what is normally classified as adult education activities are classified in the complementary-functional system. They comment, "while some progress has been made in improving the teaching and learning process of adults in the complementary-functional system, particularly in industry and the armed forces, it is still largely derived from the sequential-unit system. Because of this, the process is inadequate on at least two counts: a) it has no theory of continuity, and b) it has adopted the weaknesses as well as the strengths of the sequential-unit system, particularly in the fact that in neither system is sufficient attention given to instruction in how to learn (p. 269)."

5. Confusion between instructional theory and curriculum theory. This confusion is clearly visible in Bruner's Toward A Theory of Instruction. He indicates (pp. 40-41) that a theory of instruction should specify experiences, indicate structure, indicate sequence, and specify pacing of the material. These are predominately curriculum not instruction questions. Lawrence (1969) provides an analysis of Bruner along these lines.

Epistemological Considerations

Theories of instruction are likely to stem from a presupposed epistemological position. Philosophers generally state that the aim of instruction is "to know." The phrase "to know" is used in a general sense. Therefore an instructor must have some definition of what it means "to know" as well as having some thought as to the structure of knowledge. These are epistemological concerns. No area of instruction can escape this epistemological consideration though it may function inadvertently. Barton in using the epistemological framework was able to analyze and explain four levels of adult instruction. These were exploration, conversation, resolution, and consummation. In another set of fascinating readings titled Teaching and Learning, Vandenberg used the epistemological framework in assembling readings that deal with instruction for problem solving, for enquiring, for appropriating, for symbolizing, for acquiring, and for actualizing.

Historical Perspective

Hedegard reviews and classifies the major instructional theories from the time of the Hellenistic civilization through the first third of the twentieth century. He identifies nine dimensions of early instructional theories and each dimension is viewed as a continuum. Along each continuum the particular theory can be placed. Thus one theory may be placed on several dimensions. Implied is the idea that the more dimensions it can be identified with, the more complete is the theory. His nine dimensions were: structure of the learning process, modeling and identification, learner behavior vis-a-vis the teacher, reward and punishment, moral development, learner motives and emotions, relationship between school and home, adaptability as an instructional outcome, and ego development as an instructional outcome. On one end of his first dimension, for example, is learning as a unitary process as exemplified by Dewey and on the other end learning as a set of relatively independent faculties as exemplified by Montessori. He concluded that the dimensions of moral development, ego development and adaptability were stressed by the early theorists of instruction.

Classification of Contemporary Theories of Instruction

There are a number of ways to classify the contemporary theories of instruction that relate to the instruction of adults. Caution is noted, however, in that many of the contemporary theories were formulated by persons identified with the secondary-elementary school setting or the university setting. It can be induced that their efforts merit the adult educators' consideration. Seigel suggests that five classifications would include most of the major instructional theories. These are:

- Psychotherapeutic (Rogers, 1969)
- Cognitive Theory (Woodruff, 1967)
- Social-interaction Theory (Biddle and Adams, 1967)
- Learning Theory (Jahnke, 1967; Erickson, 1967; Ausubel, 1967)
- Teacher-Learner Behavior (Siegel and Siegel, 1967; Gagne, 1967 B)

The first three classifications stress teacher behavior, the fourth draws its insights from learning theory, and the final classification emphasizes equally the behavior of the teacher and the learner.

Procedure for Analysis

There appear to be at least four ways to proceed to analyze the discipline of adult education for its instructional theory. These are:

-Study what adult instructors do. Every instructor performs a variety of tasks, such as keeping records, suggesting materials, diagnosing difficulty, encouraging interaction, etc. What a person does is usually based on a set of assumptions which should provide insights into the instructor's attitude toward students, view of subject matter, etc.

-Analyze the objectives of adult education programs. Each adult program usually has a set of specified objectives. The analysis of these in total should provide some insights into adult instruction.

-Obverse image. If the actions of the learner in a learning process can be identified, then instruction is the other side of that element.

-Study of learning theory.

None of these approaches was followed for this paper. It was decided to look generally at the total instructional transaction of the adult education enterprise. Instructional transaction is here defined as what happens between the instructor and the learner, under what conditions and what content.

THE ADULT INSTRUCTION TRANSACTION

Adult instruction is said by Miller (1964) to differ from other areas of education in at least three ways--its heterogeneity, its structure, and the maturity of the client (p. 4-5). The adult brings varied and complete learning problems to the instructional setting and in addition the adults themselves are quite different. These elements comprise the heterogeneity. The structure is exemplified by the vast complex of prior experiences which each new experience is judged against. The maturity of the adult client is indicated by the fact that he is one who in large measure accepts responsibility and is a relatively independent person. Zahn (1967) also makes the point that adults differ from other types of students. A number of interactions take place within the adult instructional transaction (Jensen, 1965). These interactions are of a socio-psychological nature and lead to problem solving, decision making, social behavior, and social acceptance and personal evaluation. Such interactions occur primarily between the adult students in a group setting (Jensen, pp. 17-18).

The transaction that occurs when adults learn includes five elements (Kidd, 1959, p. 271). These elements are the learner, the teacher, the group, the setting or situation, and the subject matter. Each element is used as a subheading in the remainder of this section. The present author disagrees with Kidd's list of elements. It tends to equate some non-equatable elements. The group, for example, is not equatable to the learner or the teacher. Also the group is only one of a variety of learning approaches that is used in adult education. It should not be isolated from other learning approaches as Kidd's list tends to do.

The Learner

Miller (1964) indicates that there are six conditions that must be present for the adult learner to function. These are primarily psychological sets possessed by the learner and include such conditions as the student must be adequately motivated to change behavior, aware of the inadequacy of his present behavior, and must get reinforcement (chapter 2). Within the psychological make-up of the adult there are such things as needs, feelings, and values which may interfere with or enhance the transaction for the adult learner (Zahn, 1969). A similar idea was researched by Seeman (1963,1966) who found that adult learning was influenced by how a person felt about himself. Basically those respondents with stronger feelings of being active agents in their own lives learned different subject matter equally well. Those who felt that they did not control their lives tended not to remember subject matter that told them how they could change their condition.

Adult educators are verbally committed to the idea that all adults should possess the concept of lifelong learning (Liveright, 1968). In addition to lifelong learning the adult student is asked to take a major role in determining the kind of learning outcomes that are best for him. Boyd (1969) has stated this quite adequately for the adult student who is a doctoral candidate and it is appropriate for most adult learning transactions. Boyd suggests that "An individual has the right and responsibility to determine in concert with those directly involved in the direction and extent of his acts in accordance with the knowledge of the realities and his capabilities to handle the demands of those realities." Pine and Horne (1969) provide an excellent summary of facts about the learner in the adult instructional transaction. They identify nine principles of learning for the adult. These include the idea that learning for the adult is an experience which occurs inside the learner and is activated by the learner and that learning is the discovery of the personal meaning and relevance of ideas.

The Teacher

Adult education literature that deals with instruction is most diverse at the point that the teacher is considered. The dominant theme is that the adult instructor is a manipulator of group processes (Miller, 1964; Kidd, 1959). In this role he is a group harmonizer, who is himself committed to the ideal of continuous learning. Rogers (1969), whose psychotherapeutic theory has been classified as one of the more complete theories of adult instruction, disagrees with this model or role of the teacher. Rogers indicates that "teaching is a vastly over-rated function (p. 103)." Rogers comments (p. 105), "When I have been able to transform a group--and here I mean all the members of a group, myself included--into a community of learners, then the excitement has been almost beyond belief." He continues, "here then is a goal to which I can give myself wholeheartedly. I see the facilitation of learning as the aim of education, the way in which we can learn to live as individuals in process. I see the facilitation of learning as the function which may hold constructive, tentative, changing, process answers to some of the deepest perplexities which beset man today (p. 105)."

The adult instructor is committed to the ideal of guided learning. Landvogt (1969 pp. 54-56) after an exhaustive search of the literature identified three criteria that contribute to this philosophy and three criteria that are in effect when this philosophy is operationalized. Her criteria were:

-The adult educator demonstrates respect for the ability and autonomy of the learner.

-The adult educator uses the learner as a source of information upon which decisions are to be based.

-The adult educator gives the learner an opportunity to take responsibility to make major decisions in the total curriculum development process.

-The adult educator shares basic pedagogical moves in the teaching cycle with the learner.

-The adult educator engages the student in actively participating in learning.

-The adult educator encourages students to develop and use logical thought process.

The Group and The Setting

Group methods and the group setting are familiar to most adult educators (Miller, 1964, Chapter 4-9) and for this reason are not the primary focus in this paragraph. Pine and Horne (1969) stress that the setting must encourage people to be active, and must promote and facilitate the individual's discovery of the personal meaning of ideas. In establishing the setting the adult instructor must be mindful that adults attend educational activities peripherally, they do not enter a class the moment they get the urge to learn and persist in viewing their own learning needs as discontinuous (Hotchkiss, 1969). Rogers desires a setting that encourages mutual trust and mutual freedom (Chapters 4 and 5). Guided learning when operationalized by the adult instructor requires a setting that (a) permits the learners to share in structuring the setting while they are learning, (b) permits the learners to share in deciding what is to be learned, (c) permits the learners to be active, (d) permits the learners to practice, and (e) permits the learners to have a variety of learning experiences including those that are more complex (Landvogt, 1969, pp. 55-56).

Subject Matter

Very little attention is given in literature of adult instruction to instruction within various subject matter areas. The assumption seems to be that the adult instructor who understands the learner and who is a good group worker can function with students in a wide variety of subject areas. A concurrent assumption, one which probably accounts for the lack of subject matter considerations in the literature of adult instruction, is that adult instructors grow out of subject matter areas and once they obtain the processes of education function within that subject area.

Integration

Siegel and Siegel (1967) have attempted to integrate most of these variables. They have investigated what they refer to as "the instructional gestalt." Their paradigm has four classes of independent variables tested for interaction in an analysis of variance framework. The classes are clusters of (1) learning environment variables, (2) instructor variables, (3) learner variables, and (4) course variables. Using the college student as their subject, their research has led them to three statements that carry the title "Toward a Theory of Instruction." These statements are:

1. There are identifiable patterns of idiosyncratic drive for academic attainment. These patterns are associated with interactions among learner characteristics.

2. Certain features of the instructional environment which are congruent with a particular idiosyncratic drive have the power to facilitate performance. Other features of the instructional environment which are dissonant from an idiosyncratic drive pattern have the power to inhibit performance.

3. Whether or not these congruent and dissonant features of the instructional environment operate in fact as facilitators or inhibitors depends, in part, upon the instructional press. This press is a "wash" which

accentuates or obliterates the facilitating and inhibiting effects resulting from the congruence of dissonance between environmental conditions and idiosyncratic drive patterns.

INDUCTIVE GENERALIZATIONS

These generalizations were gained by the author as he interacted with the literature of adult instruction. They are helpful in identifying some of the current problems of adult instruction and offer some insight in where some research and other efforts may be directed.

1. It is my belief that presentation does not equal consumption! Adult students, much like their counterparts in secondary and elementary schools, are differentially involved in instructional interaction. Adult instruction literature seems to imply that if the adult instructor considers the needs of the group, provides for group discussion, draws upon the group's experiences, and permits experimental learning, then all students will achieve the instructional objectives held by the teacher.

2. I believe that classrooms, groups, and independent study carrels are sites of instruction but do not constitute the entire context of learning.

3. I also believe that instruction whether mediated by persons or devices must follow the same organizational principles. The instructional mediator must be matched to the idiosyncratic needs and abilities of the learner. Does the adult instructor have for his clients different reading materials for those students differing in achievement? There is a difference between organizing independent study materials along their logical dimensions or their psychological dimensions. Adult education materials of this type seem to be quite deficient in their psychological organization. Logical organization is stressed. To state this another way adult instructors use psychological and logical organizing principles for their programs in which an instructor is the mediator. When materials are considered for "packaging" so that they might be used with other mediators logical organizing principles tend to be used.

4. If the instructional effectiveness is guided by the students interests, needs, etc., this gives the adult instructor two choices. He can take the student's interests and needs that the student brings to the cite and structure the instructional setting so that the student strengths are capitalized and his weaknesses offer little interference. Nor do the weaknesses grow. He could, however, structure the instructional setting in such a way that the student is assisted in overcoming his weaknesses. Have adult instructors too often taken the former approach? This is the impression that I have gained after reviewing the state of the art. My point is that effective instruction must work with both the strenghts and the weaknesses of the adult learner. I see the present adult instruction tending to emphasize primarily the strengths of the adult learner.

5. Adult instructors when they write about and research their discipline can describe or improve adult instruction (Gage and Unruh, 1969, p.4). The first approach centers on the way instruction is. The second approach is concerned with the way instruction ought to be. Nearly all of the adult education literature on instruction is concerned with the way instruction is. Rogers (1969) is a refreshing exception.

6. I find that adult instruction has trapped itself in a contradiction of major proportions. It opts for individual differences, group setting, sharing experiences, problem solving, etc. In relying upon these methods it teaches its students to think inductively. Therefore it is offering only one kind of thinking to its clients. Most principles of adult education would suggest that this is wrong. The exception to this is those instructional transactions in which problem solving is truly implemented. Problem solving has the inheritant potential of providing both inductive and deductive experiences.

THE ELEMENTS OF MY PERSONAL THEORY OF INSTRUCTION

The eight points that I mention here are not all of the elements or properties of my theory of instruction. They are, though, some of the more important elements of what guides my teaching. First of all, it seems to me to be absolutely imperative that an instructor of adults understand himself. I would go so far as to predict that the better an instructor understands himself, the more effective he will be as an instructor. What do I mean by understanding oneself? Anytime one labels himself instructor or is asked to assume that role he sets a standard. He must take a stand and that is the standard. Anytime a standard is set by one person other persons have the right to reject it. An adult instructor cannot escape the value question for standards are usually accepted or rejected on the basis of values. Value conflict, then, is inherent in the teaching of adults. How this conflict is resolved is a very important dimension of one's theory of instruction. It is my personal opinion that one must, first of all, acknowledge that value conflict exists. I see this happening very infrequently in the instructional settings that I observe. An atmosphere must be created that both parties can tolerate and within which both parties can express their true feelings. This demands something very similar if not identical to what Rogers had called freedom and trust. An effective instructor (a) does not assume a priori that his stand is the correct one, (b) does not force all students to accept his standard or drop out, (c) gets all honest feelings expressed, (d) permits opinions other than his own to be given, and (e) to the degree possible permits the class members to determine their own resolution. This last point is a very important one and is quite often misunderstood. It does not mean that the instructor lets the group decide the entire resolution and accepts whatever they decide. He sets the boundaries within which their decisions can be made. These boundaries are not restricting conditions, they are helpful conditions.

Another aspect of this element is the way in which the stand is taken by the instructor. He should feel free to disagree with the students. He does not assert this as the only stand that is legitimate. But he does have a stand that is expressed to the students. The adult instructor must permit the adult learner the opportunity to develop his own stand.

Most behavior is an overt manifestation of a set of beliefs. Therefore a part of understanding oneself is to know what one believes about oneself, about people, about the potential for people, about society, about the potential for society, and about the role that one is to have when one acts as an instructor. A number of questions get at these beliefs; among the more important questions are:

1. To what degree do I feel that I have to assert myself as a controlling force in those situations where I am the instructor?
2. How much ambiguity can I stand?
3. How strong is my urge to "tell" a student the "right" answer?
4. To what degree is it my responsiblity to assist persons as they assume their potential?
5. Is it appropriate to think of the setting for adult instruction as a society--an agreed upon set of relationships between people.

The important thing in a theory of instruction is not where one stands on the continuum associated with each question but in knowing where one stands in relationship to the poles of each continuum.

The second element of my theory of instruction is the belief that learning is the responsibility of the students. While I perform such tasks as organizing, clarifying, and redirecting, I am the teacher. Once I assist a student in clarifying a problem it is up to him to carry out the next steps. I should not do that for him. I may inform a student of a resource that should be helpful but I cannot go to the library and check it out for him. I can organize a particular set of learning experiences and suggest them to a student but it is his responsibility to decide to participate.

An element very closely related to the preceding one is my belief that the adult instructor is a learner in the fullest sense of the word. It is such a truism; I find it hard to explain. The instructor is on the level with the class and he must be involved with them. He is learning about them and about the content area with the same fervor that they possess.

A fourth dimension of my theory of instruction is what extent are the instructional transactions that occur at the higher levels. Today we speak of education as having three domains. These are the cognative, affective,and psychomotor domains of instruction. The cognitive domain deals with those objectives which deal with the recall or recognition of knowledge and the development of intellectual abilities and skills (Bloom, et al, 1956). The affective domain includes the behaviors of attitudes, interests, values, and appreciations (Krathwohl, et al, 1964). The psychomotor domain deals with manipulative or motor-skill behaviors. We often speak of these as thinking, feeling, and acting behaviors. Within each domain there are levels. The cognitive domain has six major classes of thinking behavior arranged in hierarchical order. These classes are knowledge, comprehension, application, analysis, synthesis, and evaluation. It is my opinion that an effective instructor moves the instructional transactions as rapidly as possible to the higher levels.

I remember a couple of years ago when I apologized to a graduate class for having on two consecutive occasions referred to personal experiences to help clarify a point in regards to curriculum development processes. A student in the class commented, "I don't want you to apologize for using personal experiences to help us understand. That is the difference between a'teacher' and a 'machine.'" The comment startled me at first but the more

I thought about it, the more I was convinced that his basic point was a valid one and it is my fifth element. Instruction is sharing to a large extent. Part of that sharing is the experiences that are represented by the class. In addition instruction includes the sharing of time, and other resources. If I know of a book or a journal article, another professor or training officer in a company who can help the student gain some insight into the current problem, I have a moral obligation to direct the student towards that resource. I must share "me" and share "me" totally with all students.

A sixth element in my theory of instruction concerns subject matter. Every teacher must have some of it. It is not, however, the most important element in the instructional transaction. Most of you that know me, know that I work with undergraduate student teachers. Nearly without exception the basic question that these persons have just before they go out to the high schools is "Do I know enough about......to teach?" Within a week after they have been working with classes, they discover that they know enough about...., but they do not know enough about how to use that content to help young people grow and develop. That, in my opinion, is the appropriate role of subject matter. It is a means that a teacher uses to help people grow and develop; to take on attitudes, values, interests, etc,. People do not grow and develop in a vacuous space situation. They grow and develop as they interact with people and things in their environment. This is just as true for the adult who is in the maintenance stage of his occupational life as it is for the 14 year old who is just entering the exploratory stage of his occupational life.

A related element is my belief that the instructor is first and foremost concerned about his students and picks content that is appropriate to their needs and useful in helping the students acquire abilities such as problem solving and synthesizing. The reverse of this element would be the belief held by many adult instructors that their responsibility is to the content area and the students must master that content.

My last point concerning my personal notions about an instructional theory is that classes do not learn; students learn. Therefore there can be no one "best" instructional arrangement or setting. As instructors we need to work for optimal instructional arrangements for particular learners. Adult education, at the same time when it is transacted in the public arena, cannot be confined to tutorial situations. One education myth has promoted the ideal instructional setting as a student on one end of a log and Mark Hopkins on the other. A challenge to the adult instructor is how many individual logs can he sit on simultaneously.

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A teacher may allow different educational philosophies to illuminate his thinking, and yet choose one practical course of action. The best philosophy from which to choose is that which gives the most effective pay-off or answers the particular situation. True educational objectives are those which affect desirable changes in the student -- at his specific educational level. Four educational levels are: (1) exploration (discovering material); (2) conversation (ability to have dialogue with the material); (3) resolution (taking a stand toward the material); and (4) consummation (allowing resolutions toward the material to permeate one's life.)

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In the first part of this position paper the author assesses the purposes of a university, the nature of adult education, the roles and quality of the faculty, and the conditions for educational experiences as they apply to the learners. The writer asserts that all four components must be considered carefully before developing new adult education doctoral programs. From the conclusions and definitions of the first section, the specific attributes of adult education are deduced and the following three phases are denoted for a proposed doctoral program: (1) the admission or probation stage; (2) specialized, background discipline, and methodology courses accompanied by teaching assistantships or other working experiences; (3) seminars and research credits. One reference is included.

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The author analyzes the weaknesses of the formal curriculum and social role approaches to the aims of adult education and puts forth five criteria against which such aims could be measured. The conflict between the demands of the mass production system and democratic values is seen as the central societal problem today. In this context the aim of adult education is to maximize value in the culture through two learning routes for adult education students: (1) knowledge of the culture and its dilemma; and (2) knowledge about one's own relation to it.

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A definition of the educative community is proposed and three major component systems identified; the family system; the sequential-unit system, which includes schools, colleges, and universities; and the complementary-functional system which provides systematic learning not learned or inadequately learned in the other two systems. The paper analyzes the elements, resources, and needs of the educative community; discusses the implications for program planning; and suggests some of the responsibilities of adult educators to the three systems of the educative community. It is concluded that continuous learning has become a critical necessity and will be achieved most effectively when all the educational activities in the community work to enhance it.

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This book is concerned with the development of a more complete description of the field and body of knowledge of adult and continuing education required for graduate training programs for adult educators. The sixteen chapters, written by university professors of adult education, are in four sections -- (1) a delineation and description of the milieu in which a graduate program for the training of adult educators is emerging, (2) adult education and other disciplines, (3) theories about determining objectives for adult education activities, programs and management of the learning situation, and (4) implications for programs of graduate study in adult education. The commission of the Professors of Adult Education is explained in an appendix.

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Adults as learners are different from children as learners in self-concept, in their experience, in orientation to learning, and in readiness to learn. The andragogical approach to program development involves constructing a process design in contrast to a content design. The elements of a process design are: involvement of participants in program planning; an adult social atmosphere; diagnosis of learning needs; sequential learning experiences; a plan of specific activities; and evaluation.

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Based on a scrutiny of the literature, this theoretical framework for determining when an adult educator is guiding adult learning was developed in terms of "philosophical patterns" (the educator's basis for carrying on the total educational process) and "operational patterns" (operational performance in the teaching learning situation). Criteria were defined as follows: adult educators demonstrate respect for learner ability and autonomy, use learners as a source of information for making decisions, encourage learners to take responsibility for making major decisions in the curriculum development process, share with learners basic moves in the teaching cycle, encourage active student participation in learning, and help them to develop and use logical thought processes. Specific conditions were laid down for meeting the criteria. Finally, further research was suggested in refining the construct of guided learning, measuring and determining commitment thereto, and further uses of the construct and framework.

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Working papers, presentations, and discussions at the 1967 seminar on "Education Permanente" convened by the International Congress of University Adult Education included UNESCO background material on the concept of lifelong integrated learning, the need and the prospects for greater flexibility and outreach at the university level, analyses of the economic, technological, sociological, and psychological dimensions of continuing education for contemporary world society, and case studies of professional and worker education in France. Emphasis in the presentations was generally placed more on understanding and insights, on appreciation and attitudes, than on facts and information alone, and on the need to minimize differences between teacher and student roles and between youth and adults. There was general agreement that universities, while stressing the assessment of values, should examine the wider society, develop "cultured" persons, inject liberal education into professional training, champion controversy, stimulate the full development of individual intellectual capacities, and serve as the nerve center for an extended system of social and intellectual communication. (Reactions from four other participants were also obtained.) Also noted were blocks and impediments to educational change, implications for the future of university adult education, and basic questions for further exploration.

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Using 24 college and university teachers, this study investigated the effect of teaching styles on adult student learning and analyzed the results of a factor breakdown, interactions between teacher behavior and class and student characteristics, and profiles of teacher effectiveness. Gains in factual information were positively related to teacher clarity and expressiveness and to lecturing; gains on a comprehension test were associated with a moderate position on the permissiveness-control continuum and with energy, aggressiveness, and flamboyance. Students gave most favorable evaluation to teachers scoring high on warmth and clarity. Students with jobs did best with relatively aggressive teachers stressing factual participation; women did best under teachers scoring high on lecturing. Students below age 19 learned factual information best from teachers stressing student growth; those over 19, from teachers stressing factual participation. Students in large classes learned facts best from permissive, warm. flamboyant teachers stressing student growth; students in small classes did best with teachers who lectured, were relatively "dry," and emphasized factual learning participation. Implications and limitations of the study were also noted.

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Several studies are reviewed illustrating how adult attitudes affect learning or motivation. Adults with strong feelings of powerlessness fail to learn control relevant information more than those with more confidence in their ability to affect their environment. When a strong need conflicts with information in a learning situation, the information is not assimilated. If sufficient rationalizations have been built to defend certain behavior, educational programs to change behavior will be ineffective. In assumption of new roles, an adult vacillates between the old role and new, overlearning behavior appropriate to the new role and integration of the new role into other roles. The adult's attitudes toward role relevant learning will depend upon his current stage of role mastery.

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In cross-sectional studies comparing intelligence in adults with that in youth, decline in intelligence is observed as age increases. More meaningful comparisons, in longitudinal studies, show no decrease in intelligence, and, in some cases, an increase. When learning ability was measured without strict time limits, it did not decline between 20 and 60 years of age. Performance on tests varies, older persons doing better on vocabulary tests; the number of years of formal schooling influences performance, as do health and physical differences. It is more difficult to change the perceptions of an adult than of a child because the adult has had more prior experience. However, if adults learned how to learn when young and continued their learning in adulthood, the habit of learning is so strong and the strategy of learning so well developed that learning new material will be even easier for them then for children. Methods of teaching the young cannot be transferred without change to teaching adults; teachers will need patience to allow for the extra time and extra teaching skill necessary.

STRATEGIES OF INSTRUCTION IN ADULT EDUCATION

JAMES B. MACDONALD

The use of the term "strategies" is currently in vogue. When educational terms come into vogue we have at least two alternatives available. One is to reject the term as a proliferation of pedagogical talk and return to the old familiar concept. The second alternative is to try to clearly distinguish the perspective that a new term contributes (if any) and make the distinction clear in using it. I have decided to use the latter approach.

The search for an antecedent to the term "strategies" seem to point toward "methods." Two other terms often used are "procedures" and "techniques." I have rejected these because it is my opinion that procedures is too descriptive and techniques is too restrictive.

The distinction between a method and a strategy, at least in my mind, lies in a move toward conceptual abstraction. Thus, a strategy suggests an order of generalization which grows out of some reasonably inclusive conceptual framework, whereas methods suggest to me a series of experientially derived procedures and techniques which are not necessarily related to each other in a conceptual framework.

Having said this I am not terribly anxious to defend the distinction. However, I have taken the idea of a conceptual framework as an advanced organizer for deriving and experientially validating strategies.

My second problem is with the definition of the field of adult education. I would be remiss if I suggested to you that I have this definition clearly in mind. This is related to the fact that I personally have spent my time thinking about and doing things in elementary, secondary and college settings.

I personally have a tendency to consider college students as adults. I must say that this idea has been weakening somewhat in recent years, but at least the inservice work I have done with teachers may be said to be related to adult education concerns.

I would hasten to add that I have never been involved with the education of adults who hold responsible positions in the occupational system and who choose to further their education for non-professional or non-degree purposes. In my imagination, this seems like an attractive group of people to work with. It is not clear to me how much of adult education is included in this group.

What this all boils down to is the idea that if strategies have a conceptual basis, and if the conceptual basis for the material I will present has any validity, then it should have some use for you. I can only make an educated guess at this time at how useful or in what ways the material may be useful to you.

The strategies I propose to discuss with you are related to four somewhat disparate sources. They are grounded in a basic premise that there is no one way to teach, but that teaching strategies vary with the kinds of communication networks we wish to create; and that the communication networks are related to the purposes we have. Each communication network has a content or message and a context or medium, and, of course, the context communicates at least as much to the meaning as the content itself.

It has been useful for me to think of teaching strategies as labels for social games which create a communication network.

Here it seems we have at least two sources of contemporary insight for helping us develop a game language. These two are the analytic philosophers and the modern psychological mystics, especially those persons presently involved in the examination of and experimentation with consciousness-enlarging drugs such as LSD.

The common thread in these diverse enterprises is the concept of the game. In the one case, from Ludwig Wittgenstein comes the idea of language games. In the other instance, after eastern mystics, come the modern western psychological philosophers, such as Timothy Leary, Alan Watts, and Aldous Huxley, who expand this concept to the reality game.

Without attempting to be accurate or to be faithful to either development, the central concept of teaching as a potential series of communication games would appear to have unusual free-floating and playful possibilities. Further, it is without doubt a valid way of talking, although there is no way of knowing at present how useful it can be.

Arno Bellack, in a study of teaching, talked about it as a language game. Now what I'm going to do today is talk about teaching as games.

However, what here carries the concept of the game to a much more general level can be described as follows:

The use of the word "game" in this sweeping context is likely to be misunderstood. The listener may think I refer to "play" as opposed to stern, real-life serious activities of man. But as you shall see, I consider the latter as "game."

All behavior involves learned games. But only that rare Westerner we call "mystic" or who has had a visionary experience of some sort sees clearly the game structure of behavior. Most of the rest of us spend our time struggling with roles and rules and goals and concepts of games which are implicit and confusedly not seen as games, trying to apply the roles and rules and rituals of one game to other games.

A game is a learned cultural sequence characterized by six factors:

1. Roles: The game assigns roles to the human beings involved.
2. Rules: A game sets up a set of rules which hold only during the game sequence.
3. Goals: Every game has a goal or purpose. The goals of baseball are to score more runs than the opponents. The goals of the game of psychology are more complex and unimplicit but they exist.
4. Rituals: Each game has its conventional behaviour pattern not related to the goals or rules but yet quite necessary to comfort and continuance.
5. Language: Each game has its jargon unrelated to the rules and goals and yet necessary to learn and use.
6. Values: Each game has its standard of excellence or goodness.

Teaching, then, can be considered a special kind of communication game or games, structured by our culture and learned by us. Each game has structure in the sense of the above six characteristics: roles, rules, goals, rituals, language and values.

But further than the games themselves, I have found it useful to think about categories of intent which underlie them.

Alfred North Whitehead[1] wrote an essay a good many years ago entitled "Rhythm In Education." Whitehead contended that learning had a rhythmic and cyclic quality to it. He related three phases to the growth stages of the individual and the emergence of learning within each stage. More recently the work of Jean Piaget and some of his followers shows a rather remarkable correlation with Whitehead's insights.

Whitehead identified a stage of romance, a stage of precision, and a stage of generalization. There are two kinds of implications of these three stages for adult educators in relation to the intent of teaching strategies.

First, the stage of romance was seen as a necessary kind of loose immersion in the world of facts or data. It was seen as an attempt to explore possibilities, to build personal experiences with reality, to develop motivation, values, and interests in relation to some area(s) of concern. Whitehead saw this as the primary kind of experience for young children.

The second stage, the stage of precision, was seen as a process of ordering, structuring, sorting out, developing conceptual frameworks and fitting one's concrete experiences to these structures. This stage Whitehead felt characterized later childhood and adolescence.

The final stage was called the stage of generalization. Given new rich experiences and exploration and the patterning and mastery of facts, information, concepts, skills, etc., one then went on to generalize this order to new phenomena and to explore beyond. This Whitehead felt was the adult phase of the cycle.

But, perhaps more importantly, what Whitehead contended was that even if we could characterize ages into stages, each of the parts of the cycle was necessary at all age levels when entering new areas regardless of what general phase the person was experiencing.

Thus, I suggest that the general intent of adult learning is the generalization of ideas, information, facts, etc., to new experiences and the development of broader perspectives; but that within this, some concern must be given to all three stages: exploration, precision, and generalization.

The relevance of Whitehead's work for considering the problem of teaching strategies which structure communication games would seem to be that there ought to be strategies and communication games which are related to these three general phases.

It is my contention that there are, provided we make one more distinction as a background framework.

This is the distinction between opening and closing moves. The continuum open-closed has been utilized as a metaphor to describe personalities and social structures and functions. I have found it is useful in thinking about teaching strategies because it catches both goal and process in its meaning. Open strategies, quite obviously are those which invite personal variation and response whereas closed strategies are those which elicit specific outcomes of shared social response.

The final (fourth) aspect of the framework for strategies is an empirical one. It asks, in essence, what experiential basis is there for considering open and closed communication games in terms of the cycle of learning. It seems to me that my experience does fit this framework, and that the following six "games" have a useful experiential referent.

INSTRUCTIONAL GAMES[2]

THE INFORMATION-GIVING GAME. The most common communication game may be called information-giving. This game is exactly what it suggests. The teacher has information which he forms and manages to send to the student receiver. The receivers are expected to take in this information without distorting it and signal the teacher that they have the information. The media by which messages may be sent are variable, but the intent of the process is relatively constant.

The roles assigned are clear. The teacher possesses the information, or knowledge of avenues of access to this information. His role is to present to, or put students in contact with, the ideas or facts in the most effective manner. The student role is also clear. He is to receive the information and be able to show the teacher that he has possession of it.

The rules of the game are less obvious, but derivable by analysis. Some of these are:

1. The game should be played seriously - all participants are expected to accept the worth and significance of the game and to cooperate and perform in a serious work-like atmosphere.
2. The teacher directs the game - students are expected to take their cues for responding from the teacher. The teacher of course is responsible for initiating and soliciting responses.
3. Attention and cooperation are expected - students are expected to be attentive and to cooperate with the teacher to achieve the goals of the game.

The goals of the game are also fairly obvious. Students are expected to be able to reproduce the information presented in whatever form the teacher calls for. Their reproductions are graded and become part of the competitive interpersonal data of our society. The goals of the game vary. Some are, for example, to please the teachers, beat fellow students, win access to social mobility, or simply to know something.

Rituals are also involved. Students are expected (usually) to raise their hands before responding. Teachers are expected to have the last word and "cap" any set of responses. People take turns and talk one at a time; and all follow the special procedures for handing in assignments, taking tests, coming and going, and relating to each other.

The language of the game is essentially framed in a question-answer, lecture, and discussion format. Outside the classroom the teacher talks about individual "IQ's," meeting the "needs" of students, "gifted,""culturally deprived," and a host of other things. Inside the classroom the special language related to cueing the smooth working of the process. "Who would like to tell us about Charlemagne?" might be interpreted to mean "All right, let's get started; who is first?" Each teacher has her use of "good," "o.k.," and other phrases that are a distinctive use of language in the communication process.

The values of the game are found in achievement. Excellence means knowing the subject, and excellent teaching means getting the information across. Most often the standard is a comparative one, sometimes an absolute one, and infrequently an individual one.

MASTERY. A subvariety of information-giving is the mastery game. In general it follows the same kinds of prescriptions as information-giving. However, the special context of drill and practice provides variation for this game.

The goals, for example, might be thought of as "over-learning" or habitualizing rather than "just" knowing. Many skills fall in this area and the basic intent is to take them into cognition and make them so automatic that cognitive awareness of them is no longer necessary for behavior.

THE PROBLEM-SOLVING GAME. The next most common strategy is the problem-solving game. The teacher role is to present, get learners in contact with, or evolve a problem with them. The teacher often knows the answer to this problem, but if not, he has knowledge of how to solve it or faith that it can be solved. Oftentimes problem-solving takes place in a project or "activity" format.

The student role is more active than in information-giving. He is now expected to take some initiative, to think about what he is doing as well as what he is learning. The goal of the game is to come up with some satisfactory resolution of the problem, and standards of excellence are applied in terms of the teacher's judgment of the exhaustion of relevant sources of data in relation to the level of maturity of the students.

Rules of the game are built around the expectation that students will define or see a problem and set out systematically and thoughtfully to solve it. Contrary to information-giving, it is now taboo to expect the teachers to provide answers. Language usage now shifts to terms such as "resource materials," "critical thinking," and analysis of the process of reflective thinking with such concepts as inference, data, and evidence becoming part of the setting.

THE DISCOVERY OR INQUIRY GAME. The discovery or inquiry game is a variant of problem-solving. The major difference rests in the goals of the game. Each begins with discrepancies to be resolved, but in inquiry the goal is shifted from the solution to the process of solving a problem.

The teacher role is to set the circumstances for discrepant awareness on the part of students. Students are expected to search, manipulate, experiment, and seek actively.

The rituals in this case may often become the modes of inquiry and be in essence the goals. Thus, when appropriate, a student must use the ritual of scientific method, or of formal logic, or of aesthetic criticism, or of moral and ethical evaluation.

The value of the game is in the playing, intelligently and with spirit. The outcomes of the game are seen primarily in terms of the process utilized, and excellence becomes awareness of the process of inquiry.

THE DIALOGUE GAME. Upon occasion the communication game can actually move to the level of dialogue. In a true dialogue game the roles of all present are the same - the attempt to move the discussion to the revelation of insights not present in any participant at the beginning of the interaction.

The rules of the game are:

1. One participates as a total person, not as a role player.
2. One is expected to be open, to reveal himself, and to receive from and listen to others.
3. One must be disciplined. One is expected to participate in the context of the contribution to others.
4. One must respond to others and therefore be responsible in relation to them.

No contributions are rejected, criticized, or judged per se. Participants, however, are expected to discipline themselves by the monitoring of behavior which reflects personal needs to talk, show off, play one-upmanship, defend themselves, or pull rank. The goal is to explore beyond the present member-awareness for insights and implications about the material which produces an aesthetic response or an insight. (Aha!)

Further, the goal is to relate the forms of content or subject matters to the vitality which originally produced them; to bring the meanings that come out of a student's living into conjunction with the meanings inherent in the subject matter. Excellence is assured by the feeling of time well spent and the satisfaction of new awareness.

Ritual and language will be loosened and, although the spatial arrangements of facilities for dialogue may reflect circular rather than linear patterns, time may be used more flexibly; and the use of judgmental terms will be negated.

THE CLARIFICATION GAME. Attempts to relate students to meanings and values are often found in clarification procedures. The teacher, in other words, attempts to elicit personal responses, reactions, and meanings to life and subject matter. The teacher's role is to focus the student inward and the student's role is to express attitude feelings, aspirations, values, and impressions and to reflect upon them.

The rules of the game are very open. The teacher must never judge any student response; he must never ask questions for which he has a predetermined answer but only questions for which an individual student could possibly have the answer. Students, on the other hand, must freely express their real feelings, concerns and meanings.

The goal of clarification is the development of values and commitments in the form of personal meanings attached to content. Standards of excellence are difficult to express, but if the process is satisfying the worth is assumed.

The language involved uses such phrases as "tell me more about that" or "now I see what you're saying," or "you mean to say...?" All language involves "I feel," "I think," and other first-person reference. Again, ritual is caught in the use of time and space of a personal and flexible nature.

CLOSED TEACHING STRATEGIES. Information-giving, mastery, and problem-solving represent more or less closed teaching strategies. They are closed in the sense that a form of cognition is developed which replicates or duplicates the cognition of others - the knowledge already available in our society.

Along this line of thought, Guzak's study[3] of questions asked by teachers in elementary school reading groups showed that about 90 percent of all questions asked called for low-level cognitive memory responses, even when both teachers and teaching manuals express great concern for critical thinking and comprehension. This concurs roughly with results of studies done by many other researchers. It underlines dramatically the limited use of strategies by teachers, and the low-level and restricted focus on cognition.

OPEN TEACHING STRATEGIES. The open teaching strategies are inquiry, dialogue, and clarification. It is through these avenues that personal meanings are maximized and through which the potentiality for creating new transcendent meanings can be realized.

The study by Esther Zaret and me[4] of openness in teaching illustrates that teachers can use open strategies even though it is obvious that these strategies are rarely used. One of the interesting findings of our study is that teachers get the kind of responses they ask for. Thus, when open responses were called for by open teacher behavior (or the reverse), students gave open (or the reverse, if called for) responses 77 percent of the time.

This study was limited to the assessment of whether or not teacher and pupil verbal behavior could be classified on an open-closed process continuum. We found that it could be reliably classified this way. Teacher behavior was conceptualized as either transaction-oriented or role-oriented (i.e., either reflecting a response to the real situation or a response to what teachers thought they ought to do or say). Pupil verbal behavior was classified as either productive or reproductive (i.e., either possessing personal reference, adding some insight, or giving pre-learned answers as expected responses). In addition to the major finding - that verbal behavior could be categorized this way - findings that suggest hypotheses to be examined were that some teachers reflect both kinds of behavior, that individual teachers are fairly consistent in being either open or closed, and, as ascertained before, that teachers get the kind of response they ask for.

Thus it would make good sense for teachers to reflect upon the possibility of utilizing both open and closed strategies in the encounter with the content and their students. It appears to follow that these strategies should be evolved out of the same basic content, to allow for the breadth of cognitive development necessary for truly rational behavior to develop.

At this point we might reflect upon the different phases suggested by Whitehead. It would make logical sense to assume that the exploration or "romance" phase and the "generalization phase" lend themselves to using the open strategies; i.e., discovery, dialogue, and value clarification whereas the second phase "precision" lends itself to the closed strategies - (information-giving, mastery, and problem solving). At the present time it is clear that we concern ourselves primarily with precision or mastery and the use of closed strategies. This, however, does not recognize the importance Whitehead attached to the other two phases.

RATIONAL USE OF TEACHING STRATEGIES. What is suggested, then, is the rational or reasoned use of teaching strategies - that is, the cognitive awareness of teachers of the variety of possibilities available and the potential of these possibilities for developing learning outcomes.

Closed strategies might best be classified as forms of technological rationality. Emphasis can be placed upon the most efficient and effective ways of bringing learners into contact with existing knowledge, always provided some opportunity for comparison and/or language analysis is kept in mind.

Open strategies are better thought of as dialectic rationality, or perhaps rational irrationality. Here emphasis is placed on rational opportunities to see content in terms of its personal perspectives, new insights, and new potential. Efficiency and effectiveness are no longer the criteria of worth. Rather, the personal character of involvement, the aesthetic qualities of experience, and the moral character of interpersonal relationships are primary values.

Marshall McLuhan says: "Games are dramatic models of our collective psychological lives, providing release of particular tensions...They are all collective and popular art forms, with strict conventions. All games are media of interpersonal communication, and they could have neither existence nor meaning except as extensions of our immediate inner lives."[5]

McLuhan's point bears special relevance to the concept of teaching as communication games. According to him, we have passed from a mechanical age to an electronic age. The mechanical age and its media extensions have been characterized by sequential, specialist, linear (sequential bits one after another) media. He calls these "hot" media because they focus on one small bit at a time (like a word in a sentence) and leave little room for individual participation. The electronic age, on the other hand, is characterized by "cool" media like TV, which he describes as requiring much more participation on the part of individuals.

In the realm of sport we may witness this change from the mechanical to the electronic in the rise of the psychic and social relevance of football and the fall of the relevance of baseball. Baseball is segmented, highly sequential in action, and characterized by individual specialists. Football is much less so, with each player in coordinated action on every play and the flexibility of quickly shifting functions (for example, the tackleeligible play and run-pass option).

Whether our teaching communication games may not have "hot" and/or "cool" characteristics is at least worth thinking about. This also applies to whether the social and psychic potentialities of teaching games may not be better served by "cool" rather than "hot" games. If so, the closed games - information-giving, mastery and problem-solving - may be said to be relatively "hot;" and the open games - inquiry, clarification and dialogue - relatively "cool." The latter may, in other words, better fit the times.

For as McLuhan remarks, "(It is) the pattern of a game that gives it relevance to our inner lives and not who is playing or the outcome of the game...The ostensible program content is a lulling distraction needed to enable structural form to get through the barriers of conscious attention."[6]

All teaching games, then may well have a characteristic aesthetic quality to them - a quality which reflects the social and psychic needs and images of our time. It may be this aesthetic quality which is basic to the rejection of school games by culturally different children who derive no pleasurable aesthetic experience from the "hot" games of the school. What possible meaning this may have for adult learners is not yet clear to me.

VALUES AND STRATEGIES

In closing I should like to comment on the problem of values and strategies. Up to this point my position has been somewhat neutral in the sense that I have been trying to utilize rational means for describing possible technical ways of bringing about certain outcomes.

The whole problem of ethics and the aesthetic qualities of living have been ignored. One way of putting this is concern for the imminent values in the learning process in contrast to the transcendent values.

If we assume that adults of their own free will choose to put themselves in our hands,we have a partial answer to this question. But there still remains an aspect of moral responsibility on our part.

There are really two value styles that have been discussed or hinted at earlier. One might be called the "open" style and the other a "closed" style. The open style is more concerned with process values, ethical and aesthetic, more personal and indirect. The closed style is more concerned with content, more impersonal and direct.

It seems to me that we must ask both the technical and ethical questions - what works? and what is good? I do not believe that we can rest easy with the idea that What Works Is Good!

Thus, the modern paradox of our society can be seen in miniature here. Technology and technological rationality produce a medium or context which has side effects and unintended consequences which are not necessarily good.

There may, in the end, be no real conflict, but at present this is hard to see and I would leave you with a caution that whatever strategies we devise must be looked at carefully beyond the simple technical result that may be achieved by them.

FOOTNOTES

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3. Guzak, J. Frank. A Study of Teacher Solicitation and Student Response Interaction About Teaching Content in Selected Second, Fourth and Sixth Grades. Ph.D. University of Wisconsin, Madison. June 1966

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5. McLuhan, Marshall. Understanding Media. New York. McGraw.

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SUPPLEMENTARY BIBLIOGRAPHY

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Based on a scrutiny of the literature, this theoretical framework for determining when an adult educator is guiding adult learning was developed in terms of "philosophical patterns" (the educator's basis for carrying on the total educational process) and "operational patterns" (operational performance in the teaching learning situation). Criteria were defined as follows: adult educators demonstrate respect for learner ability and autonomy, use learners as a source of information for making decisions, encourage learners to take responsibility for making major decisions in the curriculum development process, share with learners basic moves in the teaching cycle, encourage active student participation in learning, and help them to develop and use logical thought processes. Specific conditions were laid down for meeting the criteria. Finally, further research was suggested in refining the construct of guided learning, measuring and determining commitment thereto, and further uses of the construct and framework.

Lewin, Arie Y. and Weber, Wesley L. Management Game Teams in Education and Organization Research: An Experiment in Risk Taking. Carnegie Institute of Technology, Pittsburgh, Pa. Management Sciences Research Group. Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (AD-687-463, MF $0.65; HC $3.00). Nov. 1968. 22p.

The paper describes an experiment on changes in individual and group risk-taking tendencies recurring during a semester play of the Carnegie Tech.

management game. The paper concludes with a discussion of the methodological problems associated with using management games in research, emphasizing the need for games designed specifically for research.

McKenney, James L. Simulation Gaming for Management Development. Harvard Univ., Boston. Available, for $4.00, from Division of Research, Harvard Business School, Soldiers Field, Boston, Mass. 02163. 1967. 189p.

The present Harvard Business School Management Simulation Game was developed as a teaching device for classes of 20 or more students grouped into four- and five-man teams called "firms." Each firm competes with others in an "industry," an economic abstraction of a consumer goods market programed to be simulated on an electronic digital computer. Budgets prepared by each firm are run to produce a set of accounting statements on which the participants determine the next set of moves. The model requires about ten hours of individual analysis per move, with three hours allowed for each move. The faculty acts as the Board of Directors, raising questions and probing students' reasons for their decisions. The simulation was developed to integrate the functional courses of marketing, production, and finance into an overall strategy implementation exercise, to involve participants in the utilization of analytical techniques in a dynamic problem solving activity, and to require individuals to cooperate and communicate over a period of time to solve a complex problem. War gaming as the basis for business gaming, the evolution of the simulation model, and how it has been used in various business games are discussed.

Miller, Harry L. Teaching and Learning in Adult Education. Available from the Macmillan Company, New York. 1964. 345p.

In this guide to learning and teaching in adult education, various educational principles, kinds of learning, and methods and techniques are examined. Chapters 1 and 2 survey basic learning processes, types of behavior change, educational aims and methods, and crucial conditions for learning (chiefly motivation, awareness of needs and goals, practice, and a sequence of appropriate materials). Concept attainment, problem solving, and other significant kinds of behavior change are explained in the third chapter. Uses of small group techniques in classrooms, residential programs, and informal group discussion are covered in the next three chapters. The remainder of the book discusses programed instruction, correspondence study and other methods and resources for individual study, the role of television and other mass media in formal and informal adult education, and evaluation techniques and processes. The document includes an index and chapter notes.

Raia, Anthony P. "A Study of the Educational Value of Management Games." In The Journal of Business. v39 n3 p339-52. July 1966. 14p.

Specific aims of this study were to develop more objective criteria for validating management games; to appraise the benefits, if any, resulting from participation in a game; and to determine the impact that game complexity might have on any benefits that result from such participation. Seniors at the University of Maryland were equally distributed among five sections of a business policy course, each covering the same subject matter. One professor taught one section, while the other sections were divided between two other professors. The principal instructional technique (case analysis coupled with selected readings) was supplemented by a flexible management game. Two experimental groups and a control group were used. Data were gathered by questionnaires, observation, and the Semantic Differential. Findings indicated that, when used as a supplementary teaching aid, the games enhanced learning and heightened interest and motivation; that a relatively simple game provided essentially the same benefits as a more complex one; but that the games did not develop more favorable attidues toward the course or facilitate the attainment of stated course objectives.

Watson, Eugene R. "Interpersonal Changes Through Immediate Feedback Approaches." In Adult Education. v19 n4 p251-267. Summer 1969.

Improvement of the quality of interpersonal behavior is an increasing responsibility of adult educators, but the objectives and outcomes of traditional planned approaches to change in this dimension may not be adequate. Systems for immediate and direct feedback on behavior apparently are instrumental in accomplishing interpersonal change. Certain programed materials and human relations laboratory training provide for immediate feedback on "live" behavior as a crucial element in behavioral improvement but the statement of change objectives and assessment of outcomes remain critical problems. Research on these approaches is discussed. Changes are reported in individual perception, openness, acceptance of others, extreme emotionalized tendencies, group understandings and skills, and self-confidence in interaction. Types of changes and additional summary observations may be useful in planning interpersonal change experiences.

THE CHALLENGE OF OPERATIONALIZING STRATEGIES OF INSTRUCTION

FRANK P. ZEIDLER

The title of this talk is a formidable one. I am translating it for myself to mean, "What does one do to put into operation a good idea or method of teaching adults?"

The subject matter of the talk is also a difficult one, for the hearer might be inclined to wait breathlessly for a sure-thing formula for getting his pet ideas in adult education funded. Let me disclaim at once that I shall be putting forth formulas which unerringly place funds at the disposal of the adult educator. Instead it shall be the purpose of this talk to put forth ideas which make one a better competitor for funds and for support for programs of adult education. This is the most realistic way to look at the problem of getting a new strategy of learning into operation.

At the outset one must again review what is meant by "education." One definition is that it is the process of imparting a learned response to a given stimulus, such that the organism making the response to a given stimulus has a better chance of surviving because the response is in accordance with reality. Any one therefore in education must have a kind of confidence that he knows what is good for people and what they need to know to make their lives better. Teaching is presumptive - presumptive in the sense that the instructor believes he knows what is good for the student, more than the student knows himself what is good for himself. To be a good teacher one must be a little fanatic on his subject, even as the salesman who believes that all the world vitally needs the product he sells. One of the early political figures in Milwaukee used to speak of the "sanctified oil of fanaticism," as being needed to promote a cause and to educate people in the principles of the cause. There is much truth in this idea.

People who are engaged in adult education in many cases have selected the field of adult education as something to be preferred over education of people at younger ages. One is tempted to ask why, but the exploration of that question is not appropriate here. Nevertheless, one can surmise that it was not merely happenstance that many persons in adult education went into it. They went into that field because they had a kind of passion for it, as a means of aiding their fellow man. Adult education is a mission field among the branches of education. One therefore must be a missionary to promote and fight for more adult education because in our culture education is too often considered as something only for the young and immature. The first ingredient to success in adult education is to be a little fanatic about it, and about one's particular specialty in it.

A note of caution is needed here, and that is that no branch of education can fully escape from some ethical or moral framework of education. It seems valuable for each adult educator from time to time to think through the moral or philosophic reason for wanting to impart his store of knowledge to someone else. Further he ought to think about whether he is pursing the right theory in his pattern of education. Not all adult education is necessarily good. Not all that passes for adult education is necessarily education.

Does one carry on adult education because the instructor gets paid for it? Does the instructor really have better knowledge about the world and what to do to survive in it than his students? (Some educators are discovering that minority groups do not think that what they have to offer is education at all, and that the education professionals offer is a wasting of time or brainwashing.) Is the type of education being offered really what people need at this time in history and in this part of this nation? For example, instead of teaching people arts and ceramics ought we not be telling them how to survive under atomic attack, or how to forage for themselves if the nation breaks down, or what to do if an internecine strife starts in the nation? One must clearly now adopt a moral stance toward why one wants to teach adults. The ethical components of education put into any adult course are as important as the course itself. The moral and ethical background of the pattern of instruction is critical to the ultimate success and usefulness of such instruction.

As a liberal of the 1930's variety, I still hold to the proposition that adult education is required not only for survival and for meeting the changing job opportunities, but to develop the whole person, and to help men pass through life with a sense of meaning and purpose, with a margin of comfort, and with a desire to help their fellows. I eschew education that promotes class or group strife, advocates education for economic gain, or advances technology without having a large humanistic component in the instruction in technology.

It is easy to see that the success of putting into operation strategies of adult education depends on the social and technical milieu of the times. If the environment is good, adult education can flourish. If it is not, education that is progressive and innovative may suffer. To many it appears that the current milieu for education is such that technological education is enthusiastically supported because it produces wealth, but social and humanistic education is very much in disfavor because it produces people who challenge the drive for more wealth and more consumption in America. Some kinds of adult education may suffer along with all the public and independent institutions of higher education. Adult education that results in vocational training or technical education will still be strongly approved. Higher education in the humanities and social sciences may be gravely suspect as being conducive to overthrowing God, country and home.

There was a time when in high school one did not dare teach geology or astronomy because such subjects might shake the students' faith. The time recently was when one did not dare to teach adults about world communism, or about any of its leaders or countries. Such adult studies were verboten because the students might become friendly to satanic ideas. As the trends go now, the time may come when American history will not be taught critically because such type of teaching may be considered subversive.

To be able to teach a specific discipline or a specific course of study, one must have a favorable milieu, and if that is lacking, one must be able to create it. We have to create a more favorable environment right now.

It is apparent that a social and technological milieu is accompanied by a political milieu or environment. The importance of a favorable political environment for getting into existence any education programs, adult or otherwise, needs not too much elaboration here. The bringing into existence of vocational and adult education in my home city of Milwaukee was a continuous political struggle. It was a great day when the first "lighted schoolhouse" appeared in Milwaukee which was open at night to the immigrants to learn English. The creation of the Milwaukee Area Technical College, formerly the Milwaukee Vocational and Adult Schools, and before that the Continuation School, came as a result of heroic political efforts to get the school into existence and to have it grow. When that school attempted to bring into existence an educational television station, a bloc in the Milwaukee Common Council tried to dissolve the school.

However, adult education does not depend just on the art of politicking, but on political theory and political environment. The growth of public education and the expenditure for it was not an inevitable fact in American history. It came about because the political theory of the nation and of some of the colonies was that formal education of some type was necessary to make an individual not only a good citizen, but one capable of reading the Bible, and thus have the opportunity to be saved by knowing God's word. One of the longest and most continuous struggles in the nation has occurred since then: the struggle to extend the opportunities for education. We are at a crucial phase of that struggle, because portions of the public, only partially educated, are now willing for diverse reasons to curtail the opportunity for education.

Therefore, if one wants to have the opportunity of developing a course in adult education, one must make sure that the political climate is right, and that the public understands and knows why education cannot stop finally at any point in life. The theme of continuous education all through life must be preached. It must be shown that this is not a sentence of doom, but one of new opportunity. It is not without reason that many adult schools are called "opportunity" schools.

The impact of political parties on adult education and on the chances of getting new programs started is of the greatest importance. I say to persons in both of the major parties that you ought to be supporting those candidates in the party of your choice that understand and are sympathetic to the need for adult education. Because of the civil and campus disturbances in the nation in the past years there is a mood to curb all higher education. There is a mood to resist further expenditures for education of an adult variety on the ground that it is an educational frill, and not really productive.

To get adult education programs into existence requires not only some concern for the overall political conditions of the times, but requires concern for the specific conditions of each educational jurisdiction or area. Everybody knows educational institutions as a whole are competing for public support both in the private sector of the economy and the public sector. In the public sector, for example, mayors of principal cities are denouncing the funds spent for education on the grounds that such funds are preventing them from building more streets and highways, municipal edifices, and other public works for which the public seems to be clamoring. Some mayors are building up a sentiment against public education in general on the grounds that taxes paid for education are preventing people from enjoying the good life. This sentiment is rising, and in many municipalities bond issues for schools are getting defeated.

With such a compression on the tax dollar in the public sector, the support for new and perhaps experimental programs in adult education will get short shrift. If there is any money for schols, such funds must be spent for the accepted programs of elementary and secondary education. Higher education will have to look out for itself, and education addressed to adults is in danger of being pushed out. The remarkable Preliminary Report of the Governor's Commission on Education, published in this state, gives a clue to the future. Full tuition, supplemented by a partial grant, may be required by all students in higher education, and extension education - chiefly adult education - will have to pay its own way.

People who want to press forward in adult education are simply going to have to fight to keep a fair share of the public dollars going to government, and adult educators are going to have to fight for their fair share of the dollars going for education.

Now, rather than wait till the last of this paper, I desire to express an opinion as to why adult education is so necessary, and why it cannot be considered as a caboose in the train of education. These thoughts are not original, but have been derived from a friend of mine who is a theologian in Canada. He offers the principle that education leads to knowledge. The possession of knowledge is the means of controlling power. While knowledge, in a certain sense, is not reality itself, it gives advice on how to proceed to deal with reality and to control and use power. The aim of education then must be to educate people in the responsible use of power.

All of us readily understand what a Pandora's box has been opened by modern knowledge leading to technology. All kinds of frightful and disastrous changes are impending as a result of knowledge which has released power to certain people who are in elite classes. We have to educate those who control that power to its responsible use and we have to do it now - not wait for the next generation to come along. Right now we need crash programs of adult education to educate those adults in control of power how to use that power wisely and humanely. We have to educate adults generally about the new physics, the new biology, the new genetics, the new chemistry, the new world ideologies - in order to escape some kind of holocaust in these times. No person advocating adult education should have the least reticence about making a case for large scale support right now for such objectives, particularly when we are dealing with adults who in many instances have yet to learn to be functional readers.

Having declared this position, I wish now to talk about some practical methods of putting into operation new strategies for education of adults. There are two general systems of education operant. One of these is the formal system, the other the informal system. The informal systems include public and private systems. There are numerous informal systems which include advertising, personal conversation, and just plain experience, television, radio and rumor.

All these types of education are competing with each other for support and for success. The strength of the formal systems for the most part lies in the fact that they merchandise not knowledge primarily, but accreditation that the successful student has acquired knowledge through a prescribed course. This accreditation has a definite value in the market place for jobs. It seems helpful then in many instances to have adult education courses either produce some kind of accreditation or certificate, or at least be conducted by an accredited institution. Such accreditation is more likely to win public support for the courses because people believe they are not wasting their time, but may receive not only knowledge, but a chance for a higher income. Accreditation is no substitute in the long run for the actual possession of knowledge, but the economic game today is played according to accreditation.

Moreover, those who are sponsoring adult education courses must see to it that employment agencies, public or private, and other institutions give recognition for successful achievement in adult education.

I should here call your attention to the fact that those who are in public education and are supported by public funds can learn from the instruction-for-profit systems that are developing. New commercial institutions, using the arts of advertising and all the skills of salesmanship, are successfully operating in many places because they know how to sell a product. Good ideas in education need to be sold, and the time will come when salesmanship will have to become a greater resource of adult educators than before. As in fund drives for any cause, the adult educator has to make his case carefully before he can make his appeal for support from the public and his potential students.

Those in public and private non-profit higher education should welcome the new competition from the education-for-profit agencies, because these new agencies, like hardy weeds in a soil growing less productive, may show the other educators how to sell their ideas and their strategies in an otherwise resistant public market.

To make a good case for further adult education, the professional associations of adult educators, as well as individual educators, need to support the idea of more research and development in the field of adult education. The existing traditional systems of elementary and secondary education can learn from those more free-wheeling, experimental and innovative people in adult education who do not have an audience to teach which is under compulsion to attend. Research and development is needed now, not only on what or how to teach adults, but on motivating them to learn.

Moreover research might provide support for the proposition that we ought to develop in our society a system of payments for every person to get a kind of a sabbatical for additional education at regular intervals. Automation will make possible the release of older workers, and we ought to have periodic reinstruction of the older people possible under our national tax system.

To make strategies effective also requires planning. We need not only planning for the conducting of individual adult courses, but master plans for adult education in each state, and in each region.

With a planned program of adult education, I believe that it will be easier to state the case for adult education in the future and make the appeal for support.

Concerning the sources of basic financial support for adult education, there are five principal ones - the taxpayers, foundations, corporations, the students themselves, and private individuals or other sources. Expertise must be developed in all of these areas to develop the proper supply of funds. In obtaining funds to give new strategies a chance, federal and foundation or corporate sources often are the best sources, but to secure such funds requires expertise in grantsmanship. I do not see any way of avoiding learning how to apply for grants. Though the rejections of appeals will be far more than the acceptances, yet enough funds can be obtained from these sources to mount very substantial programs. (One adult education program needed is to teach grantsmanship.)

The best and most satisfactory situation however is to develop in the adult public an appreciation of the value of adult education and a willingness to pay for an ever larger share of such education. I believe that this can be done because private persons are developing private instructional courses of all kinds all the time, and are getting people to pay for such courses of instruction. No one with an innovative adult education program should ignore the possibility of developing the program in such a way that the students to be served contribute toward it, except in the case of the very lowest income people.

Some adult education programs can be assisted by large infusions of voluntarism. I suggest that such voluntarism be developed as a way of usefully using the leisure time of many people.

It should be noted also that with the new insights on how to stimulate the will to learn, and on the techniques of teaching that include optimum presentation of materials with new styles of teaching, there is more hope of encouraging students to support and come to adult education courses than before, because such course activity is fun and gives many people immense satisfaction.

Concerning the informal methods of education which exist, such as newspapers, periodicals, radio and television, I believe that the adult educators should focus their attention on these mass media and demand an adequate share of space and time for presentation of adult education programs. Make no mistake - these media will compel the development of new styles and techniques of adult education in presently unthought of ways; for example, how can one teach exact mathematics and make the process appear as recreation? A private promoter might achieve this result.

The technique for mass communication developed by advertisers may outweigh in influence on adult thinking the total efforts of adult educators. Somehow this process which has had some harmful effects must be brought under better guidance so that constructive effects appear. Some adult educators need to concentrate on more effective uses of the mass media of communication.

The personal appeal for the support of adult education and bringing into existence new courses and new strategies is not to be overlooked either.

Adult educators will have to find and organize the adult education buffs - those citizens who have no ulterior motives but support adult education because of its intrinsic merit. Few causes are successful in legislative or other public bodies without the support of the citizen buffs. They are around and their support should be recruited. For example, citizen buffs have been busy saving public radio in Wisconsin.

These citizens will have to encourage people in legislative or other decision making positions to be favorable to an enlarged program of adult education. They will have to make sure that decision makers are properly informed about the merits of programs for adult learners.

There is a need to state why more support at all levels of educational systems, public and private, is required for adult education. Many of you have read the recent news dispatches which speak of the unrest of the white middle class. This unrest has been shown by the actions of the construction workers in many parts of the country which are directed at students. The disaffection of this class lies far deeper than in its surface manifestations. The cause of disaffection is that an education gap has appeared in this nation. This education gap is represented by one level of learning which terminated at the twelfth grade or earlier, and by another level which includes exposure to college level education. Experience in one or two years of college, in my opinion, tends to produce not only an educational, but also a social and cultural gap. This gap is creating a division tending to polarize the nation.

A very large effort is now needed to close this education gap so that the people with high school or elementary education do not feel threathened by the changes which technology has brought. The changes incidentally have not been primarily caused by education in the humanities, but by technology which many people with elementary and secondary education consider the highest good. The humanists, the social scientists and the moralists who are trying to prevent this technology from becoming utterly destructive are threatened by a large section of the public who think they are the cause of the threatening changes. We therefore need a very large scale of education of American adults to expand their knowledge and understanding of the humanities and the social sciences if we are to survive the effect of the exact sciences.

The master overall strategy which should be operationalized is one to rapidly and profoundly upgrade the level of American adult education in the humanities, the social sciences, and in moral and ethical education.

Some of the biologists are predicting the time when education will be produced by electrical impulses sent into the brain along the neural system. Transference of knowledge from one brain to another will take place. The brain will not only be able to get possession of facts, but some predict that it will be possible to produce the full sensation and attitude of any kind of human experience, such as having the sensation of watching a sunset. Possibly so, but before that time, the adult educator has to use other devices to put into effect his conceptions, theories and strategies of teaching. He has to develop a type of personality himself which includes an insatiable desire for more information himself, perseverance in the face of discouragements, ingenuity and resourcefulness of the type minority people need to exercise to survive, commitment to people, and a belief that his cause is as good as any. The motto - "Every adult - a learner."

SUPPLEMENTARY BIBLIOGRAPHY

Bergevin, Paul. A Philosophy for Adult Education. Available from The Seabury Press, New York, NY 1967. 186p.

This book presents some ideas that constitute a supporting structure for an effective program of adult education in a free society. It begins with an overview of the adult, his society, and adult education, a discussion of goals and structure for adult education, and specific meanings of the term--as a systematically organized program, as random experiential learning, and as a field of study. Then follow two chapters on significant personal and social problems which may inhibit or misdirect the learning of adults. Twelve concepts to implement the education of adults are presented. A summary emphasizes the necessity of continuous learning in a free society and a selected reading list and an index are included.

Chaplin, Sylvia. "Enquiry - Mature Thoughts From a Student." In Adult Education. (London) v42 n1 p18-24 May 1969.

A survey of adult education in Great Britain points out that the very benefits which a technological society has brought with it provide a greater need and opportunity than ever before to develop and appreciate those loosely termed "liberal" studies which can provide continuity in a fast-changing world.

Deinum, Andries. Speaking for Myself: A Humanist Approach to Adult Education for a Technical Age. Center for the Study of Liberal Education for Adults, Boston, Mass. Available from Syracuse University Press, Box 8, University Station, Syracuse, NY 13210 ($2.00) 1966. 94p.

The collection is divided into three sections, the first of which contains an essay of introduction on the ultimate goal of all education. Section II includes essays on university extension and program development, the university and educational television, teaching and the use of film as film, and on a collection of quotations. The essays of the third section concentrate on a variety of contemporary problems related to living in an urban society (the humanity of Van Gogh, the image of love in film, 'goofing' and planning, the study of local needs, pageantry, and the difficulties of minority groups). Planning in the Netherlands is compared with planning in the United States. In the former there is coordinated, integrated, comprehensive planning; in the latter, a tendency to leave action until the last minute.

Kidd, J. Roby. "You Can Get Anything You Want." Keynote speech of the 1968 AEA/USE Conference (Des Moines, Iowa). In Adult Leadership; v17 n8 p351-354+ February 1969.

In his keynote speech at the 1968 conference of the Adult Education Association of the U.S.A., J. Roby Kidd reviewed the changes in adult education in the previous twenty years and proposed the ingredients of a model for American adult education in the future. The period, 1948 to 1968, was one of great growth--in numbers of adult students, in variety of activities, in professional personnel, and also growth in understanding of adult learning, perception, attitudes, and motivation, and learning environments. Yet adult education is unsure of its power. This should not be. There are vast cohorts of adults involved in educational activities (perhaps 30,000,000 annually) and a trademark of adult education--participation--has become a key concept in society. In the future, adult education must take into account social as well as individual goals and maximize coherence and harmony; it must be intelligent and wary of divisive forces in society; it must accept its responsibilities soberly and with imagination and charity.

Knox, Alan B. "Interests and Adult Education." In Journal of Learning Disabilities; v1 n4 p220-229 April 1968.

Interest in adult education is analyzed in order to provide guidelines for program development. Interest in participating is seen as a function of background and impact of such social changes as increasing mobility and population, institutionalization of most domains of life, and automation. Interest is defined and placed between past experience and future participation. It may be related to internal variables--experience, daily life pattern, period in adult life cycle--and to external variables such as societal values, accessibility and familiarity of activity, and major changes in marital status, job position, or community. The most powerful influence on adult interest is socioeconomic status and life style, the dominant component being formal education. There is need to know more about interests of adults, to work with a wide range of formal and informal community groups, and to demonstrate the relevance of issues and topics dealt with in adult programs.

Liveright, A. A. "Adult Education--For What? The Crucial Need for a Philosophy and Sense of Direction." In Adult Leadership; v17 n6 p271-2+ December 1968.

Four problems which characterize adult education in the United States are identified: lack of philosophy; irrelevance; under utilization of resources; and absence of a sound and accessible base. Adult education, moreover, does not offer enough activities which are vitally concerned either with the contemporary value conflicts (war vs. peace, black vs. white, youth vs. age) or areas of need (poverty, urbanism, aging, environment). Television and radio resources are not utilized to the fullest. There are virtually no institutions which have been established specifically to provide or coordinate programs of continuing education. The author makes four proposals: (1) a Magna Carta for continuing education; (2) an attempt to attract a new breed of adult educators; (3) more effective use of new methods and media; and (4) development and experimentation with new institutional forms.

Mezirow, Jack. Toward a Theory of Practice in Education with Particular Reference to the Education of Adults. Paper presented at the Adult Education Research Conference, Minneapolis, Minnesota, February 27-28, 1970. EDRS Order Number: ED 036 755. Price: MF $0.25, HC $1.50 August 1969. 28p.

Theorizing in adult education has been primarily concerned with questions of social philosophy which contribute little to improving the quality of professional activity. This essay suggests a rationale and strategy for developing a research based body of theory, indigenous to adult education and of practical utility to practitioners. Central to the reality upon which such theory must be constructed is a presupposition that an individual constructs meaning through an active process of interaction with others and directs his behavior accordingly. Educational process is an organized effort to assist an individual to construct meanings in a way by which he will be more effective in solving problems.

Verner, Coolie. "Cultural Factors and Communication." In Adult Leadership; v18 n9 p268-70+ March 1970.

This article considers answers to the problem of establishing contacts with subcultural groups (especially the disadvantaged) in order to provide them with functional adult education programs.

ANDRAGOGY, NOT PEDAGOGY!

MALCOLM S. KNOWLES

Adult education is, I believe, on the threshold of a major technological breakthrough. To support this belief, let me examine three propositions with you and then make a proposal. The first proposition I would like to make to you is that where adult education, historically, has been a kind of luxury and secondary activity in our culture, as of 1967, I believe that the education of adults is rapidly becoming a central concern, a central need of our civilization. The reason for this change is growing realization that unless we do something fast to get adults growing and adapting and learning to live in a new kind of world, man is in danger of becoming obsolete. Technologies of work acquired in the teens are increasingly archaic by the time individuals have reached their forties. But even more tragically, social attitudes, values, and relationships that are progressive in one decade are decadent in the next. Clearly, the very survival of civilization requires that systematic learning continue beyond youth. And this is the first time in history that this is so.

A second proposition I would like to make to you is that adult education, particularly in this country, has undergone an enormous growth in the last decade, both in the number of people it is touching and in the number of institutions that are identifying adult education as a primary activity. Adult education is now big business. Enormous sums are being spent by the government, by educational institutions, by business and industry, and by voluntary agencies for adult education. Adult education is no longer suffering from marginality. It is no longer suffering from being a peripheral activity in our society. More adults are engaged in education than ever before in history. So, my second proposition is that we are talking about something that is already very substantial but is still growing explosively.

But now, a third proposition I want to make to you is that adult education has been relatively ineffective up to this point in accomplishing its mission. It has not done its job, it has not made the kind of difference in the basic attitudes, basic world views, basic approaches to life, that I think it is capable of and that I think is required of it if our civilization is to survive.

Now, how can I stand here, a missionary for adult education, a defender of adult education, and say I think it has goofed? Very simply, I think the biggest obstacle to the achievement of the full potential of adult education has been that it has been tied to and it has been hamstrung by the concepts and the methods of the traditional education of children. Isn't it true what we who teach adults know about teaching, we have learned either from being taught as children, or having been taught to teach children? What we know is pedagogy, which is word that comes from the same stem as "pediatrics"-the Greek word "paeda," meaning child. All education has been equated with pedagogy-the art and science of teaching children. Even in our own literature you will find references to the "pedagogy of adult education." Although semantically a contradiction, this phrase is descriptive of an unfortunate reality. For the fact is that most adult teaching has consisted of teaching adults as if they were children. This has been our hamstring.

But now things are changing. We have been accumulating a growing body of insights and knowledge from both research and experience. We have learned that adults are different from children as learners in certain very critical ways. And we have been developing a new technology-methods, techniques, and materials-that is tailored to these unique characteristics of adults as learners. Furthermore, we have started, first in Europe and now in America, to give a new label to this technology to distinguish it from the technology of pedagogy. This new label is "andragogy," which is derived from the Greek stem "andr-" meaning "man" or "grownups." As I see it now, this new technology of andragogy-the art and science of helping adults to learn-is based on certain crucial assumptions about the difference between children and adults as learners. Perhaps as many as a dozen assumptions about these differences constitute the theorectical foundation of andragogy, but let's simply illustrate the process by which a new technology comes into being by examining only three of them.

The first and by far the most important difference between adults and youths as learners, I believe, is that of their self-concept. A child first sees himself as a completely dependent personality. He sees himself in his first consciousness as being completely dependent upon the adult world to make his decisions for him, to feed him, to change his diapers, and to see where the pin is sticking. During the course of his childhood and youth, that dependence is reinforced as decisions are made for him in the home, at school, in church, on the playground, and everywhere he turns. But at some point he starts experiencing the joy of deciding things for himself, first in little matters and then in more important ones, and by adolescence he is well along the way toward rebelling against having his life run by the adult world. He becomes an adult psychologically at the point at which his concept of himself changes from one of dependency to one of autonomy. That's what I think we mean psychologically by adultness. To be adult means to be self-directing. Now at the point at which this change occurs, there develops in the human being a deep psychological need to be perceived by himself and by others as being indeed self-directing. And we tend to resent and resist being put into situations in which we feel that others are imposing their will on us. This is the concept that I think lies at the heart of this new technology of andragogy. Andragogy is based upon the deep insight that the deepest need an adult has is to be treated as an adult, to be treated as a self-directing person, to be treated with respect.

What is the technology that comes out of this concept? I can think of several implications. I think a first implication is the great importance of the provision of a climate in a community or in an institution that smacks of adultness. Now, how is a climate of adultness established? Well, let's take this climate here. What are the characteristics of this atmosphere that make you feel either childish or adult? Can you shout out to me? All right, one is a physical setup in which you are comfortable and can talk with one another in informal groups. The chairs aren't in rows facing a podium. Another is that you could choose where you would sit-you had freedom of choice; another is that you were given dignified name cards so that people could identify you as a unique individual. I'm sure we could go on and build a long list, but we have illustrated that the symbols of childness that adults react to most negatively are regimentation, lack of respect for them as unique persons, being talked down to, lack of concern for human needs such as comfort, and depersonalization of relationships. These kinds of things may sound awfully trivial; but to a person who feels that his adultness is disrespected, these are very important. They are symbols of how he is perceived, and if he feels he is perceived like a child, his resentment will get in the way of his learning.

I think a second implication for this new technology of adult education has to do with who diagnoses what I should learn. It is a very critical question to me as an adult whether I determine what I need or whether some authority figure is going to tell me what I need to learn. Now, one of the rich areas of ferment in our field is the invention of new approaches to what I think of as self-diagnosis. Some very imaginative procedures are being invented for involving the adult in performing, then looking at his performance in comparison with other people's performance, and finally making his own judgment about where his own strengths and weaknesses are. Such activities as role playing, critical incident process, simulation exercises, skill practice exercises, group observation, and self-rating scales, are used for this purpose. Engaging of the adult in the diagnosing of his own needs for learning is a very important part of the technology of andragogy.

A third element in this technology has to do with the planning process. Traditionally, all the planning of student learning is done by the teachers, or by the curriculum committee, or by the state department of education. In adult education, responding to this deep need to be self-directing, a great deal of attention is beginning to be paid to ways of involving the adults meaningfully and relevantly in the planning of their own learning. At the simplest level is the creation of representative planning groups of some sort, committees or councils. It is my observation that those programs that involve their participants in planning what they will learn and how they will learn it are much richer and more vital than those that do not. But I have a hunch that we could find better ways of doing this.

Probably an even more important implication, in terms of andragogy, is the involvement of adults in the carrying out of their own learning-in engaging in mutual self-directed inquiry. I have been doing quite a bit of experimenting in Boston University with my graduate classes using what I call learning-teaching teams. We have the students organize themselves into teams, each of which takes responsibility for learning all it can about a unit of a subject and then sharing what they have learned with the rest of the students, with faculty members serving as a resource to the teams. I have made several discoveries from this experience. For one thing, students listen a lot more attentively to their fellow students than they do to me. Their eyelids start drooping after about fifteen minutes when I try to do all of the teaching, but when a fellow student team gets up to share what they have learned, their ears stay flopping for a good hour. So, I think better learning takes place when you involve the learners in teaching each other. Secondly it makes a lot of difference in their ego-involvement. Do they get hooked! For example, I have never assigned a page of required reading in my adult education life, but with these learning-teaching teaching teams, I have a long bibliography of references that might be helpful to them. The loudest complaint which I have received came from my faculty colleagues concerning the amount of reading I make my students do. They are doing so much reading for my classes that they don't have time to do the reading these other professors want them to do. The fact is that in engaging in their own self-directed inquiry they get so deeply involved that other things become less important to them.

Finally, an implication of the concept of being self-directing has to do with evaluation. Probably the most crushing blow to any self-respecting human being is the act of another person giving him a grade. This is not evaluation in educational terms; in fact, it has nothing to do with learning. If anything, I think it is anti-learning. Evaluation, according to andragogy, is really a repetition of the process diagnosis that I described before as self-diagnosis. Evaluation and andragogically is really re-self-diagnosis. What we do at the end of a learning experience with adults, according to andragogical principles, is to engage them in a process of re-assessing the remaining gaps between the competencies they want to have and the competencies they do have. So the techniques of evaluation according to andragogy are the same as the techniques of self-diagnosis that I described earlier.

A second characteristic in which children differ from adults is in experience. Adults have accumulated more experience than children and youths by virtue of having lived longer. Adults are richer resources for learning. But this difference in experience goes deeper than mere quantity. A curious phenomenon occurs regarding how a person feels about his experience. Experience to a youth is something that happened to him-a series of almost external events. If you ask him who he is, he will define his self-identity in terms of his family, his school, his community,etc.-the identity that has been given to him from outside. But an adult will define himself in terms of his experience. His self-identity is derived from what he has done. Accordingly, we adults are very jealous of the worth of our experience, and wherever we find people devaluing our experience, not paying attention to it, not incorporating it in the educational plan, we feel rejected as people. It is not just our experience that is being devalued; if a teacher doesn't make use of my experience in a classroom, I, Malcolm Knowles, am being devalued, because my experience is me. And this is even doubly true of undereducated people, because what else do they have but their experience?

Consequently, andragogy is shifting from transmittal techniques toward experimental techniques. This is not to say that we do not use transmittal techniques; there are occasions when transmittal techniques are most effective means for accomplishing a given educational objective. But there has been marked shift away from such transmittal techniques as lectures, assigned reading, even canned audio-visual presentation, to experiential techniques that make use of the learner's experience, such as simulation exercises, laboratory training, case method, critical incident process, community action projects, and the wide variety of discussion techniques. "Action learning" and "participative learning" are printed in bold face in the lexicon of andragogy.

Third, adults and youth differ in their time perspective. In most aspects of life, a youth's time perspective is one of immediacy. A youth has a very hard time postponing the satisfaction of present desires. He can't wait to get that candy bar or that ice cream bar; he wants it now. With adults it is the opposite. In most aspects of life, adults are accustomed to postponing their satisfactions; they are accustomed to saving for the Christmas fund and vacation and all that sort of thing. But in regard to learning, the time perspective of children and adults is reversed. In regard to education, youth's time perspective is one of postponed application. Almost all of what I learned in grade school and in high school-and in fact in college-I learned not with much hope that it would be very useful then, but that it would accumulate into a reservoir of knowledge and skills that would be useful when I got to be an adult. My orientation to learning as a youth was one of postponed application, and therefore my attitude toward learning was subject-centered. If you had asked me what I was learning I would have rattled off subject matter titles: history, government, religion, mathematics, language, and so on. I would have said I am learning subject matter.

But an adult's time perspective in regard to learning is one of immediate application. The reason an adult enters into education is to be able to to better deal with some life problem about which he feels inadequate now. He wants to learn something tonight that will help him better deal with some of his problems tomorrow. As a result, an adult's orientation to education is problem-centered. If you ask an adult what he is learning, he will almost always use a verb and a phrase describing a life problem: "Iam learning to be a better mother or a better supervisor," or "I'm learning to speak more fluently, or to converse more brilliantly, or to vote more intelligently."

One technological implication of this difference is that the organizing principle for the curriculum of adult education involves problem areas rather than subject categories. In adult education across the country, the curriculum for adults looks increasingly different from the curriculum for youth. Let me give you some of the labels that we are using in adult education: "Education for Aging," "Consumer Education," "Leisure

Time Education," "Home and Family Living," "Supervisory Training," "Management Development," and "Liberal Education." Contrast these with such subject categories of youth education as "Science," "Philosophy," "Language," "History," "English," and the like.

Another technological implication of this difference is the importance in the actual learning experience of starting the learning with the problems and concerns that the learners bring in with them. The first thing that adult educators typically do in a classroom situation is to take a problem census. They have their adult students identify what it is that they are curious about or worried about or concerned about. Then they build a learning program around these curiosities and concerns. Accordingly, andragogy is a student-centered, problem-oriented technology.

When you get right down to it, this is the way the education of children should be, too.

SUPPLEMENTARY BIBLIOGRAPHY

Knowles, Malcolm S. The Leader Looks at the Learning Climate. Looking into leadership series, Number 13. Available for $1.25 from Leadership Resources, Inc., 1750 Pennsylvania Ave., N.W., Washington, D.C. 20006. 1961. 19p.

Adult and youthful learners differ in their self-concept, accumulated experience, readiness to learn, and time perspective. Adult learners can diagnose their learning needs, plan and conduct their learning, and evaluate their progress toward learning goals. Greater emphasis can be placed on techniques that tap the experience of adult learners and special emphasis should be given to the learning environment. Adult learning should be problem-centered rather than subject-centered. Document includes a bibliography.

Knowles, Malcolm S. Higher Adult Education in the United States; the Current Picture, Trends and Issues. American Council on Education, Washington, D.C. Committee on Higher Adult Education. Available from American Council on Education, One Dupont Circle, Washington, D.C. 20036. ($3.00) 1969. 124p.

This survey provides a guide for discussion and inquiry for administrators and faculty members of higher educational institutions, people in government who work in adult education, and citizens who are concerned with this area of educational service. Essentially, it is an analysis of the literature of higher adult education from 1960 through 1968, as documented by the ERIC Clearinghouse on Adult Education at Syracuse University. It starts with an attempt to place the field of adult education in perspective. Chapter two presents a synopsis of the historical roots and a broad picture of the current situation. Chapter three identifies some of the external and internal forces that seem to be pressing for change. Chapter four summarizes the trends discerned in the literature; and Chapter five isolates the national, state, and institutional issues that are revealed as concerns of adult educators in institutions of higher education. A selected bibliography, with abstracts, is included.

Knowles, Malcolm S. "Gearing Adult Education for the Seventies." In The Journal of Continuing Education in Nursing. v1 n1 p11-16. May 1970.

Adults as learners are different from children as learners in self-concept, in their experience, in orientation to learning, and in readiness to learn. The andragogical approach to program development involves constructing a process design in contrast to a content design. The elements of a process design are: involvement of participants in program planning; an adult social atmosphere; diagnosis of learning needs; sequential learning experiences; a plan of specific activities; and evaluation.

Liveright, A.A. A Study of Adult Education in the United States. CSLEA Research Reports. Center for the Study of Liberal Education for Adults, Brookline, Mass. EDRS Order Number: ED 021 201. Price: MF $0.75, HC $7.45 147p.

Based on information gathered in 1965 and 1966 for the United States Office of Education, this study of adult education in the United States begins with a definition of terms and of underlying educational philosophy, then reviews the history of American adult education, current patterns of participation, the adult education profession (including research and the training of adult educators), the nature and scope of Federal activities and policies, the present state of adult education activities by the mass media and other non-Federal groups and institutions, and areas of concern in the changing field of adult education. Recommendations for action are set forth in such areas as data reporting, research design, information dissemination, innovation and experimentation, interagency cooperation and program coordination within the Federal government, and the recruitment, development, and training of qualified personnel.

Waller, Ross D. "A Philosophy of Adult Education." In International Review of Community Development. v14 n76-78 p18 1967. 8p.

A separate Western philosophy of adult education cannot be formulated, yet adult educators have a complex of implicit assumptions reflecting the rise of modern democracy and democratic values. The early adult education movement rested on a highly optimistic Christian and humanistic idealism. Social and collective ideas soon began to assert themselves, but emphasis long remained on the individual. The Adult Education Committee Report of 1919 in Great Britain was, and still is, perhaps the best formulation of adult education principles and methodology in societal terms. Western style continuing education has not been automatically accepted in many developing countries because of illiteracy and the lack of a democratic tradition. Even so, literacy and community development are aimed at the democratization of culture. Thus, the broad aims of adult education are compatible with any religion or philosophy which does not deny fundamental human rights.

Ziegler, Warren L., ed. Essays on the Future of Continuing Education Worldwide. Syracuse Univ., NY. Publications Program in Continuing Education. Available from Syracuse University Press, Box 8, University Station, Syracuse, NY 13210. (HC $3.00). Notes and Essays on Education for Adults, 66. July 1970. 148p.

Topics chosen for these eight seminar papers divide basically into three categories: discussions on processes and methods for planning for the future of adult education; attempts to project into the future such worldwide problems as urbanism, conflict, the population explosion, and specific adult education trends; and discussion of the current scene to determine how adult education is shaping its own future. Papers by Ziegler and Weaver approach the future from theoretical and policy planning perspectives. Ely describes the availability and application of new developments in instructional communications and educational technology. Wilcox describes a range of dynamic new adult educational experiences in urban ghettos among the poor, the disenfranchised, and blacks. Birenbaum focuses on the relationship between continuing education and the quality of urban life. A paper by the staff of the United Nations Institute for Training and Research suggests the rightful role of adult education in coping with conflicts among and between nations. Papers by Blakely and Deleon deal with adult education trends in general, together with larger problems whose solution will not emerge from adult education alone. An epilogue gives excerpts from seminar discussions.

AN APPROACH TO A DIFFERENTIAL PSYCHOLOGY OF THE ADULT POTENTIAL

HOWARD Y. McCLUSKY

A differential psychology of the adult years as a unique period in the life span of the individual has long been a period of relative neglect in the productions of the psychological enterprise. But within the last decade or more this situation has begun to improve. That improvement was underway by the late fifties and early sixties came to light in the writer's chapter on 'Psychology and Learning' in the June 1965 Review of Educational Research (14). Since then, additional and cumulative evidence is contained in the appearance of Birren's Psychology of Aging (2), Bromley's Psychology of Human Aging (5), Botwinick's Cognitive Processes of Maturity and Old Age (4), Hurlock's monumental Developmental Psychology (10), Neugarten's readings on Middle Age and Aging (17), and most recently Bischof's Adult Psychology (3).

Bischof is particularly impressive in submitting evidence for the momentum which the study of adult psychology is currently developing. Of the approximately 930 items contained in the 42 and a half pages of bibliography at the end of his book (p255-298), five percent were dated before 1950, nine percent appeared between 1950 and 1960, 20 percent between 1960 and 1965, while 66 percent were published between 1965 and 1968.

But for all this promising development there are as yet few deliberate and systematic attempts to formulate a position from which to develop a differential psychology of the adult years. The following presentation is submitted as a modest effort to move in this direction with particular emphasis on its relevance for an understanding of the adult potential.

To start promptly with our assignment it is proposed that a differential psychology of adults may be derived from an intermingling of selected aspects of the topics of (a) interaction, (b) dynamics, (c) personality change through time, and (d) differentiation. This presentation will deal primarily with the first three. More specifically it will include a variation on the S-O-R formula in developing the theme of interaction, a relatively new concept of MARGIN as an approach to the realm of dynamics, and finally it will draw on developmental and life cycle theory in discussing changes in adult psychology through time.

LEARNING AND THE S-O-R FORMULA

To learn is to change and the scheme most commonly proposed for explaining how learning-change takes place is the S (stimulus), R (response) formula or some variation thereof.

Historically, the S-R formula is essentially a more recent version of antecedent association or connectionist theories of learning. According to this view, learning occurs if we can associate or connect a new stimulus to an earlier response, or a new response to a former stimulus. In either case some change occurs. This focus on relatively objective stimulus-response units of behavior has provided the conceptual framework for bringing the processes of learning out into the open where they could be measured and presumably predicted and controlled. The presumption of the original S-R model was that if we could account for and measure the stimulus, like the impact of a cue on a billiard ball, we could predict the magnitude and direction of the response. Or if we knew enough about the response, we could retroactively reconstruct the characteristics of the stimulus which was originally responsible for its arousal.

The S-R scheme works fairly well as long as learning is confined to simple kinds of learning. But it encounters severe difficulties when learning is more complex and the learner is more mature. Consequently, it is a much better explanation of the quasi-mechanical learning of early childhood than it is of the more complex learning of the adult years. The difficulty lies chiefly in the fact that the raw physical properties of the stimuli are not sufficient to account for individual differences in response. Something more, called the 'intervening variable' is required. In terms of our formula the intervening variable is the person --O--, the one stimulated and the one responding.

At this juncture it is necessary to draw on what we know about perception, for it is the role of perception which constitutes the empirical and theoretical basis for elevating the importance of the O in our formula and thereby stressing the unique importance of the adult condition as a decisive factor in adult behavior.

We return to the point that it requires more than the raw physical properties of the stimulus to account for the individual's response --R--. We begin with the reality that a person is immersed in an environment of incessant stimulation bombarding in varying degrees the sensory receptors (i.e., eyes, ears, nose, etc.). If unregulated, this all-pervasive bombardment could overwhelm and immobilize the individual. Fortunately some of this stimulation is blocked out, while some filters through. Insight into the filtering process may be derived from an awareness of the facts and theory of perception.

In the first place,perception is highly selective. That part of stimulation which finally becomes a part of experience is NOT a random sample of what is totally available. There is (a) selective exposure and within the exposure field, (b) selective awareness. That is we do not see, hear, etc. everything and we are not equally aware of everything we see, hear, etc.

In the second place, perception tends to be organized. A person perceives things in patterns that are meaningful to him. For example, note the influence of context (e.g., the Müller-Lyer illusion), figure and ground, grouping and closure. Gestalt psychology has been especially influential in calling attention to the crucial role of perceptual organization.

In the third place, both selection and organization as well as the interpretation of what is perceived, are clearly influenced by the needs, disposition and set which a person brings to the perceptual experience. Experiments indicate that people are more likely to see an ambiguous picture as containing food objects when they are hungry than when they are satiated. Other research reveals that college students interpret a picture anxiously when hypnotized in an anxious mood, critically in a critical mood, and positively in a positive mood. And in a classic experiment Bruner and Postman demonstrated that in the case of ten-year-old boys the perception of the size of coins was directly related not to the size but the value (to the boys) of the coin.

Thus not the raw physical property of the stimulus but the individual's PERCEPTION of the stimulus is the key factor in determining the response. We cannot then predict --R-- the response exclusively from our knowledge of the --S-- stimulus. HENCE I KNOW WHAT I SAY BUT I DO NOT KNOW WHAT YOU HEAR; I MAY KNOW WHAT I SHOW BUT I DO NOT KNOW WHAT YOU SEE.

The mistake of the original S-R formula has been its reductionist oversimplification of the highly complex nature of the learning process. By overemphasizing both stimulus and response as well as their external character, it has reduced if not ignored the unique importance of the person (the intervening variable, O) as the agent receiving and often originating the stimulus as well as the one giving the response. A more valid version requires the insertion of an O between the S and the R, thus reinstating the learner as an indispensible factor in understanding and influencing the learning process. The neglect of the person --O-- as learner explains why telling --S-- is not necessarily teaching and why listening --R-- is not necessarily learning. Both Input --S-- and Outcome --R-- must be anchored in the person who is supposed to do the learning. This point is especially relevant in the adult years when experience becomes more and more cumulative and behavior increasingly differentiated.

Learning involves not only elaborate exchanges between stimuli, responses and the learner, but it must be equally dynamic if it is to be effective. As one approach to understanding the dynamics of adult learning, let us turn to an examination of the concept of Margin.

Margin is a function of the relationship of Load to Power. In simplest terms Margin is surplus Power. It is the Power available to a person over and beyond that required to handle his Load. "By Load we mean the demands made on a person by self and society. By Power we mean the resources, i.e. abilities, possessions, position, allies, etc., which a person can command in coping with Load. Margin may be increased by reducing Load or increasing Power, or it may be decreased by increasing Load and/or reducing Power. We can control both by modifying either Power or Load. When Load continually matches or exceeds Power and if both are fixed and/or out of control, or irreversible, the situation becomes highly vulnerable and susceptible to breakdown. If, however, Loan and Power can be controlled, and better yet, if a person is able to lay hold of a reserve (Margin) of Power,he is better equipped to meet unforeseen emergencies, is better positioned to take risks, can engage in exploratory, creative activities, is more likely to learn, etc., i.e. do those things that enable him to live above a plateau of mere self subsistence."

"There is a rough similarity between the ideas of Load and Power and other concepts. For example, Stress may from one viewpoint be considered or regarded as a kind of Load. Load is also quite similar to the idea of Input in communications theory. That is Input is a Load delivered to a system of transmission. If Input is too ambiguous or if its volume and rate become excessive, a condition of 'overload' arises, resistance sets in, and breakdown may occur."

"The idea of Power also has its analogues. For example, Resilience may be regarded as a kind of latent Power. It is the capacity for recovery after expenditure, depletion or exhaustion. Again, Margin is related to the notion of capital in economics. Here, net profit may be considered as a surplus for distribution or reinvestment for expansion, or increased productivity. Also in engineering the factor of safety is a direct application of the idea of Margin. In this case, after estimating the greatest stress to which a building, bridge, airplane, machine, etc. may be subjected, additional units of strength are built into the construction as an assurance that liberal Margins of safety will be available to the client."

"But the key to the meaning of Margin lies not only in the subconcepts of Load and Power but even more in the relationship between them. For example, the amount of Power a person possesses will obviously have a strong bearing on the level and range of his performance. But the strategic factor for a person's selfhood is the surplus revealed by the Load Power ratio which he can apply to the achievement of a preferential development (15)[1]."

In the light of our theory therefore,a necessary condition for learning is access to and/or the activation of a Margin of Power that may be available for application to the processes which the learning situation requires.

In the preceding discussion of the S-R formula and the theory of Margin, it will be noted that except for a few instances the reader has been left largely on his own to relate these concepts explicitly to the psychology of adults as a special field of inquiry. That they are relatable is quite clear. In the processes of behavioral development the elements of S, O and R become woven together in complex patterns of acquisitions and as the years advance, as indicated above, the O becomes increasingly a uniquely dominant factor in the transactions involved. Likewise in the realm of Margin, the adjustments of Load to Power become matters of overarching concern as a person accumulates and later relinquishes adult responsibilities and modifies the varying roles which the successive stages of the life cycle require. But a full recital of the relevance of S-O-R and Margin requires more attention than this occasion permits.

If we are looking for a subject matter especially germane for adult psychology, we will find it more specifically revealed in the characteristics of changes in the adult years. Added to the concepts of S-O-R and Margin data in this field provide a substantial body of cognitive material from which to fashion a differential psychology of adulthood.

CHANGE IN THE ADULT YEARS

Critical Periods

One way to view change in adulthood is to conceive of the 50 plus years following childhood and youth as a procession of critical periods. These may originate in or be terminated by some significant event, but the time prior to, following, or in between events calls for the word'period'as a more functional designation of the idea we wish to convey. These periods are characteristically productive of experiences decisively important to the persons involved during which marked changes in social role and meaningful relationships may occur. Entry into, advance in, transfer from,or loss of employment would represent one category of such events. Marriage, the birth of a child, or the loss of marriage partner, children, parents, relatives, and other significant associates illustrates another category. The sensitive periods of readjustment leading up to and following these and similar events often give rise to strategic 'choice points' in life direction and often compel adults to make an 'agonizing reappraisal' of their circumstances and the prospect confronting them in the years ahead. It is in such periods that some of the most meaningful learning may occur, when an older dog may learn some tricks better than younger dogs who have yet to be confronted with some of the critical events of life.

Commitment

In the idea of commitment we have another useful way of looking at the changes confronting a person with the passage of the adult years. Our definition of commitment consists of two components: one is an 'intentional attachment' and the other a responsibility unique to adulthood as its object. In general, change would be viewed as incremental and cumulative as well as having varying degrees of intensity and range of involvement.

"To illustrate in the family domain, commitment in courtship would be regarded as tentative. Marriage itself would be regarded as the beginning of a major continuing commitment in turn leading to an accumulation of obligations with the coming of children and the widening of the kinship circle. In the occupational field, it would presumably be attached first to the job itself, then to co-workers, the employing institution, and the consumers of the job's services. Similarly, as the years unfold, commitments could be extended to the church, political party, civic associations, special interest groups, the community, and the like, in varying combinations and degrees of priority."

"In such a progression commitment could be evaluated typically as follows: in childhood it would be nonexistent or embryonic; in youth, diffuse and provisional; in early adult life, with the arrival of basic job and family obligations, it would become more authentic and binding but still limited in scope; while in the middle and late middle years it would embrace the largest number and variety of concerns including attachments to work, property, civic affairs, and especially the extended family when an obligation to one's aging parents on the one hand begin to compete with one's obligation to one's growing, but still partially dependent children on the other. In later years a shift and reduction in commitments would appear with a selective disengagement in some areas and a deepening of attachment in others."

"The preceding sketch constitutes only the bare bones of an approach for mapping the progression of life commitments, but it suggests that in this concept we are not considering a vague, intangible entity, but one which, with appropriate methodological ingenuity, could be counted, scaled, and charted with a degree of operational reliability and validity. But even without measurement we have here an idea with much utility for understanding some of the stubborn aspects of adult learning. For example, it helps explain the binding and 'locked in' character of so much of adult life which may add to the problem of resistance to learning. More specifically it suggests that resistance to learning may not necessarily reflect a reluctance on the part of the adult to learn but simply his unwillingness to dislocate some of the basic commitments around which much of his life is organized. Such an adult would be much more likely to learn if his basic commitments could be eased (e.g., via leaves of absence with pay and allowance for family expenses) so he could be more free to learn."

Time Perception

"In the perception of time, we have another fruitful way of looking at the progression of the adult years. It makes a great deal of difference in one's orientation to learning whether life lies ahead as it does at age 21, is about midway as at 40, and is largely in the past in memory or ahead in one's children as at 70. To be behind, on, or ahead of schedule with respect to life expectations, or more important to be aware that one is behind, on, or ahead of schedule, may have a profound effect on life adjustment and consequently one's willingness to undergo a program of systematic instruction."

"There is much evidence to show that at about 30 the young adult begins to realize that time is not unlimited and that as time passes his range of options with respect to job, family and other areas of living are becoming correspondingly reduced. A little later he begins to stop measuring his life from the date of birth but instead from the years remaining before death. His thoughts become relatively less concerned with the world of outer activity, and somewhat more absorbed in the inner world of contemplation."

"A related feature of time perception is the common experience that time seems to pass more rapidly as one grows older. There may be a partial explanation in the following 'arithmetic of time:' at 16, one year is one 16th of the time a person has lived, at 40 one year is a 40th, and at 70 a 70th of the time lived. Thus with advancing years, a unit of time, e.g., one year, becomes a decreasing fraction of the time experienced and is so perceived. This fact added to the decrease in perception of life expectancy undoubtedly has a profound and pervasive impact on the attitudes of adults as the years unfold -- an impact which in turn also affects an adult's perception of his potential as a learner. An unpublished study of the writer's indicates that up to about age 50, middle class adults do not seriously question their ability to take part in activities requiring new learning, but with other factors constant, after 50, doubts about the capacity to learn begin to appear. In the light of our argument, one explanation may be that as one passes beyond age 50 the perception that time is running out may make a great difference in an adult's attitude toward the appropriateness if not legitimacy of resuming a life of systematic inquiry (16)[2]."

'Critical Periods,' 'Commitment,' and 'Time Perception' are relatively new topics in the literature of adult psychology. More familiar however are the formulations which have come from the field of developmental psychology. In continuing our discussion of 'Change in the Adult Years,'six of these have been brought together in the following chart: 'Comparative Designations of Developmental Stages.'

The items in this chart may be roughly grouped into two categories. One appears under the headings: Biological, Kuhlen and Buhler; the other under the rubrics of: Eriksen, Peck and HYMC. The items in the first category are similar in suggesting an initial stage of increase (Progressive Growth, Expansion, and Preparatory), a middle stage of consolidation (Stability of Growth, Maintenance, and Culmination) and a final stage of decline (Regressive Growth, Defense Against Loss, and Decline).

In comparison, the second category embodies a somewhat different and more optimistic stance. For example, Peck moves from the issue of Valuing Wisdom vs Valuing Physical Powers in early adulthood to Ego Transcendence in the later years and similarly Eriksen moves from the achievement of a Sense of Intimacy to the achievement of a Sense of Ego Integrity, with no suggestion in either case that the direction of change which they imply represents a decline in the adult condition. At the same time this writer (McClusky) holds that by realigning and transvaluing the relationships of Load to Power, the later years may in fact be a period of progressive growth.

The emphasis of the second category of items suggests that there may be a potential for the prolongation of adult development not acknowledged by the conventional view of change in the adult years. We will return to this point in the following section.

Changes in Intelligence (The Ability to Learn) with Age

In general, there have been two kinds of data employed to deal with this issue, one is cross sectional and the other longitudinal in character. The cross sectional kind studies a random number of persons in different groups at successive age levels, while the other studies the same persons over various intervals of time. The first of the cross sectional type was reported by Thorndike in his classic volume on Adult Learning (22).

He studied the rate of learning over time, and from his data derived his famous age curve of learning ability with a peak at 22 and a decline of about one percent a year to age 50. A somewhat later investigation by Jones and Conrad of about 1,200 persons ranging from 10 to 60 years of age in several

COMPARATIVE DESIGNATIONS OF DEVELOPMENTAL STAGES - MOSTLY POST ADOLESCENT THROUGH THE LIFE SPAN

BIOLOGICAL	KUHLEN (12)	BUHLER (3)	ERIKSEN (9)	PECK (20)	HYMC (15)
PROGRESSIVE GROWTH (0-25)	EXPANSION	PREPARATORY (0-25)	INTIMACY vs ISOLATION		DEVELOPMENT OF MARGIN
STABILITY OF GROWTH (25-45)	MAINTENANCE	CULMINATION LARGEST NO. DIMENSIONS (25-50)	GENERATIVITY vs STAGNATION	VALUING WISDOM vs PHYSICAL POWERS SOCIALIZING vs SEXUALIZING CATHECTIC FLEXIBILITY vs IMPOVERISHMENT	EXPANSION OF MARGIN
REGRESSIVE GROWTH (45 plus)	DEFENSE AGAINST LOSS	DECLINE (50 plus)	EGO INTEGRITY vs DESPAIR	MENTAL FLEXIBILITY vs RIGIDITY EGO DIFFERENTIATION vs WORK ROLE PREOCCUPATION BODY TRANSCENDENCE vs BODY PREOCCUPATION EGO TRANSCENDENCE vs EGO PREOCCUPATION	TRANSVALUATION OF MARGIN

New England villages yielded similar results. They showed a steady rise in intelligence from 10 to 21 followed by a decline in each of the subsequent age groups (11).

Yet again and later, Wechsler in his standardization of the Bellevue Intelligence scale in 1935 showed a high point in performance for his subjects at 22, followed by a gradual decline. Wechsler's data are particularly pertinent since they were derived from the use of an instrument especially designed to measure adult intelligence. Thus from the cross sectional studies we get a picture of intelligence peaking in the early twenties with performance gradually diminishing thereafter.

But the longitudinal studies, most of which have been conducted since those cited above, have revealed a somewhat different and more optimistic situation. Beginning with studies at mid-adulthood of change in learning ability with age, it is interesting to note the outcome of a follow-up of the famous investigation of gifted children conducted by Terman at Stanford University. On one occasion, Terman and Oden -- and on another, Oden and Bayley (1) were able to locate and retest a number of the original sample who by the time of the later inquiry were in the middle years of adulthood. In general, the results of both investigations revealed a gain in each of four age groups on tests constituting measures of conceptual thinking (21).

Turning to a study embracing an even wider interval of time, Owens has reported data particularly relevant for our problem. In 1950 when his subjects were about 50, he retested a group of college graduates who had originally taken the same test (Army Alpha) as freshmen at Iowa State College. About 11 years later, when his subjects were 61, he administered the same test a second time. Thus there were two follow-up administrations of the same test to the same persons - the first after an interval of about 32 years and the second after an additional interval of about 11 years. At 50, the subjects showed a slight gain over their performance as freshmen and at 61, they maintained the level they had attained in general at 50 with a decline only in tests of numerical ability (18, 19).

Support for the Owen's picture of the mental ability of adults over 50 is reported by Eisdorfer, who after a three-year interval found little change in the performance of 165 adults on the full scale WAIS (8), and by Duncan and Barrett whose research yielded similar outcomes with 28 men after a ten-year interval (7).

What is the meaning of this apparent discrepancy in the results of cross sectional and longitudinal types of studies?

In attempting to answer this question, Lorge - a student of Thorndike - made a distinction between speed or rate of response on the one hand and power of response on the other. He noted that as persons move through the adult years there is a decline in the speed of their reaction. But he also pointed out that this did not necessarily signify a parallel decline in the power to react. By using tests of power under timed and untimed conditions, he conducted a series of investigations that tended to confirm his theory (13).

Others have objected to the results of the cross sectional studies on the ground that tests of intelligence and learning are biased in favor of youth. Young people have usually had more experience in taking tests than older persons and their contact with the material in the test items is more recent and hence more available.

Finally, perhaps the most serious objection relates to the criterion problem. What is a good criterion with which to correlate measures of adult intelligence? Is it academic achievement, a dimension often used in the validation of intelligence tests? Probably not, but if effective performance in coping with the stresses and requirements of the adult years is a criterion and if this could be measured, we might come out with a different view of the structure and growth of adult intelligence. The criterion problem is one of the most difficult to resolve in the entire arena of psychological inquiry. It permits no easy answer, but it raises issues so fundamental that when related to the measurement of adult intelligence, the problem of either its decline or increase must be viewed in a different perspective.

But to this writer the most significant point to be derived from cross sectional investigations stems from two kinds of related data. One is the diminishing scores of successively older groups of adults and the other is that in the 1955 standardization of his scale of adult intelligence, Wechsler reports a five-year advance in peak ability (23).

To elaborate: in the case of the first point, it is well known that older persons have had lesser amounts of formal education than younger persons and that amounts of formal education gradually decline as the age of the study population increases. It appears therefore that the peaking of ability in the early twenties revealed by cross sectional investigations and gradual decline thereafter is just as likely to reflect a decline in amounts of formal education achieved by adults as it does a decline in adult ability to learn.

The five-year increase in peak ability reported by Wechsler would tend to support the same point. Because in the 16-year period between 1939 and 1955, the educational level of the general population increased substantially and at the same time advances in availability and usage of the mass media, i.e., radio, TV, and the printed page were equally substantial. Thus the general environment became more stimulating and educative. This interpretation of the outcomes of cross sectional investigations combined with the results of longitudinal studies showing no decline, give further support to the viewpoint expressed at the conclusion of the preceding section: (1) that the conventional view that changes in the adult years inevitably bring about a decline in intelligence (or the ability to learn) can now be challenged by a growing body of respectable empirical data; and (2) the three-phase model of growth, consolidation, and decline as descriptive of the adult potential must be thoroughly overhauled and restated with a more optimistic stance.

But there are other grounds for believing that the adult potential has been underestimated.

Role and Self Concept Theory

In the prevailing view of society, it is the major task of children and youth to go to school, study, and learn and the major task of the adult to get a job and work. In brief, childhood and youth are times for learning and adulthood a time for working. This is beginning to change, but the dominant thrust of society's expectation and equally of his self expectations is that for an adult the learning role is not a major element in his repertoire of living. Thus both society and the adult view himself as a non-learner. Our theory is that this failure to internalize the learner role as a central feature of the self is a substantial restraint in the adult's realization of his learning potential. Or more positively stated, if and when an adult thinks that studying, learning, and the intellectual adventure is as much a part of life as his occupation and obligation to his family, he will be much more likely to achieve a higher level of intellectual performance. Briefly, it is proposed that the potential is there but it needs self and societal support to bring the potential to fruition.

Sense of Discovery

Similarly it may be argued that another disposition, namely a sense of discovery, tends to be lost in the adult years and if recovered, retained, and cultivated would contribute greatly to intellectual performance.

A brief examination of what happens with the passing years will lend plausibility to this hypothesis.

We are on safe grounds for holding that about 15 months of age, when a child's ego is beginning to take shape, most of an individual's waking hours are devoted to discovering the exciting world about him. Everything is new and everything literally from the ground up must be learned. There are unending mysteries to unravel, new tasks to be mastered,and new frontiers to be explored. But as the strange becomes more familiar, and as skills become habitual, the sense of discovery begins to recede.

This becomes increasingly true as one approaches adulthood and as the skills and activities required for the major responsibilities of living are mastered. Here discovery gradually gives way to repetition, and acquisitions to maintenance. There is nothing essentially reprehensible about this. In fact a certain amount of habituation is necessary, and in most enterprises effective maintenance is as essential as the original process of building.

It certainly would not be efficient for example, if we as adults had to devote as much time and attention to learning to tie our shoes, learning to read and write, or even drive a car as children and youth must learn to do. The world of dressing up, of becoming literate, etc. must become as efficient and habitual as possible in order that these skills may be instruments for better things. So a naive belief in the wonders of discovery could easily lead us into a primitive kind of romanticism utterly unrealistic for the exigencies of adult living.

But typically, for most adults the efficient performance of maintenance activities does not release a person to continue the adventure of discovery. Instead, following the Law of Least Effort, he tends to take the convenient road of repetition, gets into a rut and appears gradually to reduce his ability to cope with the intellectual demands of his world. But there is nothing inevitable in the order of things that this should occur. It is the intent of our theory that the loss of the sense of discovery is a reflection of a condition in which an adult allows the requirements for maintenance to override his needs for the pursuit of inquiry, and not a reflection of an absolute decline in ability. More positively, it is also the intent of our theory that a sense of frontiersmanship can be cultivated and restored, that the adventure and wonder of life can be renewed, if not increased. If to his self expectation as a continuing learner, an adult could add a picture of himself as one continuing to discover, he could heighten his ability to learn and inquire, for here the Law of Use would overcome the Law of Disuse, and the thrust of his inquiry would be reinforced by the cumulative satisfactions resulting from his constant probe of the edge of the unknown. What better validation of the preceding hypothesis could there be than the common experience that as one advances in years, and learns more and more about the world about him, the more he realizes how little he really knows and that a vast terrain of the yet-to-be-discovered remains to be explored.

In brief then, in our discussion of the adult's role as a non-learner and his loss of a sense of discovery, we have argued that it is the moribund condition that he (the adult) often allows to encircle him and not a decline in absolute capability that accounts for an apparent decline in learning and in participation in intellectual activities. It is the adult condition and not the irreversible loss of ability which feeds the conventional view that aptitude diminishes with the passing years. The potential is there. If we reverse the condition blocking the potential, the reality will appear.

In conclusion, we have attempted to build a case for a differential psychology of the adult years, and in so doing have also proposed a post hoc interpretive hypothesis that the trend of both empirical and theoretical evidence is supportive of the view that adults have a potential for continuing learning and inquiry which historic conventional wisdom has failed to recognize. Ours then is a stance of unrealized potential and not one of "de facto" limitation. It will be interesting to note in years ahead which of these two views the thinking and research of the future will tend to confirm.

FOOTNOTES

[1] The above quotation is taken with permission from the writer's article listed as item 15 in the bibliography.

[2] The above quotation is taken with permission from the writer's article listed as item 16 in the bibliography.

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In many cases, satisfaction of needs or goals results in lack of motivation to seek something similar but more challenging, and the realization that a goal or desire is unattainable results in giving up a desire for it. Status of age, pressures of time and money, physical change and decline, skill deficits, and "locked in" feelings influence motivation by causing one to adapt his goals to those more within his reach. Needs of growth-expansion are less important in later life as feelings of anxiety and threat increase. Later ages have a reduction in ego-involvement with life; an increase in disengagement, in anxiety, and in negative self concepts; and a decrease in happiness. Economic and social class attitudes play roles in determining perception of aging. There is some evidence that old age adjustment depends largely on a person's own self assessment of whether or not he reached fulfillment in his own life.

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Most of the selections (58) in this anthology discuss the problem of what social and psychological adaptitions are required as individuals pass through later life. Major attention is paid to the importance of age status and age-sex roles; psychological changes in the life cycle; social psychological theories of aging; attitudes toward health; changing family roles; work, retirement, and leisure; dimensions of the immediate social environment as friendships, neighboring patterns, and living arrangements; differences in cultural settings; and perspectives of time and death. Empirical studies, and those in which research methods are clearly described, are presented wherever possible, together with theoretical and summary papers and a few investigations that present innovative methods and concepts. Various research methods are illustrated: questionnaires, surveys, interviews, projective tests, participant observation. The four appendixes in particular pose methodological problems in studying longitudinal change. Tables, figures, and an extensive bibliography also appear.

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FUNDAMENTALS OF ADULT LEARNING

JEROLD W. APPS

"It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness..."

Charles Dickens wrote those words more than 100 years and an ocean away, yet we can say again in 1970--it was the best of times, it was the worst of times. It's a time of technology in education--teaching machines, computerized instruction, programmed learning. And it's a time when students on college campuses are throwing stones through windows, fire bombing university buildings, and ousting college administrators. It's a time when more knowledge is available than anyone ever dreamed possible, yet the students cry for relevance, meaning.

It's a time for easy living, comforts, material things--where people strive to live in the suburbs and capture a piece of the good life. While Pete Seeger sings "Little boxes on the hillside, little boxes made of ticky tacky...little boxes, little boxes, little boxes all the same. There's a green one, and a pink one, and a blue one, and a yellow one and they're all made out of ticky tacky and they all look just the same."

It's a time when lovers walk hand and hand along observatory drive, while less than a block away student activitists throw rocks at helmented riot police and they in turn toss tear gas back at the students--tear gas that wafts over the greening hills and smarts the eyes of rioters and non-rioters alike. In the vernacular of the young, "This is where it's at." And this is the setting in which we must think of the fundamentals of adult learning. It is indeed a time to be concerned with fundamentals--perhaps more so than ever before in our history.

In the first part of this paper I'll suggest several reasons why I think it's essential we review some fundamentals of adult learning. Then I'll share some learning guidelines, and finally, I'll suggest three learning models for your consideration.

This paper isn't a final product. It must not be for we must consider adult learning dynamic and constantly affected by a multitude of changes in our society. What I suggest here is my present thinking.

Concern for Fundamentals

Why be concerned with these adult learning fundamentals? For several reasons: (1) the aim of adult learning is inaccurate, (2) adult educators are more concerned with means rather than ends, and (3) young adults will bring a new perspective to adult learning.

Aim of Adult Learning Is Inaccurate

As adult educators I think we are confused about what learning we want to occur in the adults with whom we work.

I believe our thoughts about learning are too narrow. Perhaps we've followed the dictionary definition of learning: "Knowledge or skill acquired by instruction or study."

For too many people, educators and learners alike, learning is a matter of acquiring units of information--the amount of learning is related to the number of years you've spent in school or the number of college credits you've taken.

Learning is often thought of as acquiring precise, succinct knowledge void of any emotion or sentimentality. Learning is thought of as replication rather than interpretation--memorization rather than integration. The mind is thought of as if compartmentalized--one segment dealing with fact storing and another segment concerned with love and hate and fear and feeling. But, never will the two segments meet.

As a result of this learning orientation, little time is given to considering ultimate meaning for subjectivity and personal feelings, for speculation about causes, influences, and relationships that defy quantification.

Many adults in our classes have been dehumanized by I.Q. scores, personality rating scales, and class-ranking procedures from their secondary and higher educational experiences.

Many of today's adults are products of an educational system where they were thought of as A students or D students, as achievers or underachievers, or as dropouts. The wholeness of their self--their total personality--was reduced to a symbol suggesting average, superior, or mediocre.

Jacob researched the difference between college students at the beginning of their college careers and when they were graduating seniors. In his summary of the research, he says:

> The main overall effect of higher education upon student values is to bring about general acceptance of a body of standards and attitudes characteristic of college-bred men and women in the American Community. There is more homogeneity and greater consistency of value among students at the end of their four years than when they began. Fewer seniors espouse beliefs which deviate from the going standard than do freshmen.[1]

In other words, our colleges, if we can generalize from that research, are group makers, individual killers. Or as someone has said, "we are born as originals and die as copies."

Thus, the adults who come to our classes are products of a system that ranked them, rated them, graded them, and taught them to think alike.

As adult educators we must change our image of what learning should be. I believe that the aim of adult learning is to free man to be himself, to be an individual, to develop his own potential. John Gardner, in his book No Easy Victories, says:

> All education worthy of the name enhances the individual. It heightens awareness, or deepens understanding, or enlarges one's powers, or introduces one to new modes of appreciation and enjoyment. It promotes individual fulfillment. It is a means of self-discovery.[2]

Learning must not separate facts from emotion, it must deal with the whole man--his needs, his loves, his hates, his hang-ups, his prejudices. We must consider all of this when we think of our aim for adult learning.

Adult Educators Are More Concerned with Means Rather Than Ends

Unfortunately, adult educators have the reputation of being method oriented. We hear people when adult education is mentioned say, "Oh, you mean getting people into small groups to discuss something," or "You mean a retreat to discuss something," or "You mean a conference where people get together to hear somebody talk," or "You mean correspondence study where I read something and then write out the answers to some questions."

We have, in the field of adult education, many books written on "How to... "--how to lead a group discussion, how to use visual aids with adults, how to organize a conference, how to use role playing, brainstorming, symposia, panels, buzz groups, and so on.

This has been an intriguing area to be sure--many adult educators are interested in new ways of working with adults, new ways of providing learning experiences. I'm not condemning what has been done. I think much of the writing and thinking about approaches for carrying out adult education programs is necessary and needed.

But the basic question often goes unanswered: Why are we using a particular approach? Indeed, why is a given group of adults getting together, what are they trying to accomplish, what is the basic purpose? Why are we doing anything with a given group of adults, either in a group or individually?

I'd suggest that as we look ahead we must deal with a much more fundamental question, that of purpose, and keep asking the question why, for what purpose, what are we trying to achieve?

By focusing on the more basic question, I think we can help change the image of adult educators from being gimmick-oriented persons concerned only with approaches or methods rather than the ends to be achieved. I don't care that a particular approach be classified as a method, a technique, or a device. I don't think that question is worthy of much deliberation. Obviously, as adult educators, we must know a great deal about approaches in designing learning experiences. But the question of which approach to use shouldn't be the first question asked. How often have you heard an adult education planning committee start by saying, "We're going to have a three-day conference--now what are we going to do? How will we organize it, whom will we invite?" It seems to me that this is like building a house and talking about what kind of paneling to use on the walls when you should be asking whether you should be building a house at all. Perhaps it's better that we put up tents or maybe think about constructing an apartment building.

We've got to think about ends before we get wrapped up in details about means. And we've got to be much more flexible in our approaches, so that the learners--those who will be involved in the program whatever it's to be--will have a substantial voice in the decision about method as well as purpose.

Young Adults Will Bring a New Perspective to Adult Learning

I think we've avoided the issue of the new perspective of young adults. The students, who today are questioning the approaches used in our public schools and in our colleges and universities are the students that we'll work with in a few short years--indeed we're working with them now.

The generation gap is real and we as adults must accept it. I don't think it's going away when the magical age of 21 is reached or college graduation is achieved or the young people marry.

More than 50 percent of our population is under 25, and the U.S. Bureau of Labor Statistics predicts that by 1975 there will be a 30 percent increase of people ages 15 to 24 and a 40 percent increase of people 25 to 34.

So in terms of numbers alone, there will be many young adults involved in a variety of adult learning activities.

But more importantly than the numbers is the change in values these young adults will bring to our adult education offerings.

"For one of the first times in modern history, the values, manner and morals of the ruling generation are being dominated and dictated by their children."[3]

What are some of these value changes? How do they differ from the values that many of our present adults hold?

Slater, writing in the July, 1970, issue of Psychology Today, says in describing the values of the present adult generation:

> The old culture, when forced to choose, tends to give preference to property rights over personal rights, technological requirements over human needs, competition over cooperation, violence over sexuality, concentration over distribution, the producer over the consumer, means over ends, secrecy over openness, social reform over personal expression, striving over gratification--and so on.[4]

Youth see adults as provincial in their interests, materialistic, resistant to change, compromising with their values, overly concerned with security, disinterested in other people's problems, overly respectful of people in authority, and inconsistent in what they practice and what they preach.

Of course there is always danger in making generalizations about any group of people--obviously there are many exceptions. Not all adults espouse the values described above, not all young people stand by the values described. But the trends are there, so much so that we can't ignore them.

The young adults participating in adult education will be different, will see the world differently, will want more participation in decisions that affect them, are more accepting of other people's peculiarities, want more freedom to do their own thing as long as it doesn't harm anybody.

Young people will appraoch problems from a broader perspective than former generations. And feelings and emotions will be an important part of their decision making. These young adults will place much more emphasis on the human side of problems than any former generation.

As adult educators we must realize that the young adults who will seek out our programs aren't the same as the older adults with whom we've comfortably worked for many years. These young adults are going to demand that we consider their often differing value system when they participate in adult education--and if we aren't ready to change, we're going to be "turned off" and passed by.

Guidelines for Effective Learning

After reading the literature both in the field of adult education and outside, I've developed some basic learning guidelines that I think are essential. Most of you will probably say, "There's nothing new here, Apps is merely reciting some timeless truisms that adult educators have proclaimed for years." Perhaps. But I think we've often said one thing, then practiced something else.

I'll mention seven guidelines now. Later we'll discuss the relationship of these guidelines to three adult learning models.

1. The focus of the adult educator must be on the individual.

   We say that and then in the same breath ask, "What are the needs of this or that group, how can we better meet the problems of this community?" But, what about the individuals that make up groups or communities or any other category we might talk about? What are the needs of this person and that person and the fellow sitting over there?

2. The focus of the adult educator must be on the entire person.

   No argument here you say, yet how many of us are not willing to deal with attitudes, emotions, feelings, hates, loves, and the other hang-ups individuals have. How often do we deliver neat little packages of facts--or in the jargon of the educator, how often are we content to deal with the cognitive domain but either don't know how to or won't deal with the cognitive and the affective domain at the same time?

3. The learner must be involved in decisions about what he will learn and how he will learn it.

   Superficially perhaps, but in reality how often? I think we still say, "Here's what I think this group will be interested in doing and I think they'll enjoy this way of doing it."

4. The instructor must be willing to take risks.

   Sure, we're willing to take risks--as long as what we do doesn't fail. But then are we really taking risks?

5. The instructor must cease being the sole knowledge authority and become one of several resources to the learner.

   But doesn't all my training make me a knowledge authority? Does it?

6. A climate of trust between learner and the instructor must exist.

   There's usually a climate of trust you say--perhaps, but how often do you and the learner share in the learning enterprise as peers?

7. The process of learning must be considered as important as the content.

   Helping people learn how to learn should be as important to educators as imparting content. But, how often do we put any focus on the learning process with the intent that people can and will do much of their learning without us and by themselves?

Three Learning Models

Let's look at three learning models and try to relate these guidelines to them. There are many learning models--but unfortunately most of the literature on learning is in a primary or secondary school setting. Gagne[5], in his book The Conditions of Learning, says there are eight types of learning.

Vandenberg[6] says we can think about human learning as occurring in six different ways.

For this discussion, I'll use three learning models. As I describe them, I'll try to relate the function of content, the function of the instructor, and the function of the learner in each and at the same time try not to violate the guidelines I've given above.

Learning As Acquiring Content. The focus of this learning model is on the content and some values inherent in that content. The content may come from a variety of sources--written materials, films, programmed learning kits, television and the instructor.

In a general sense, the function of the learner is to acquire the content and the function of the instructor is to help the learner acquire it.

Before you tell me I've already violated most of the learning guidelines I've mentioned earlier, here are some examples I think fit this learning model.

An adult wishes to get a driver's license. He has no control over the examinations, indeed he probably doesn't know what knowledge he needs to be a safe driver. He comes to an adult education driver training class to acquire the knowledge and skills he needs to pass the exams.

Another example is an engineer newly hired by a major industrial firm. To become a useful and productive engineer in that firm there is certain knowledge he needs to have about the firm--the products they make, the engineering procedures they follow, and so on.

Although content has a most important function in this model, the function of the learner is crucial. The learner's function is twofold: (1) making decisions about content he doesn't have at the beginning of the educational program and (2) making decisions about which learning experiences to choose that will provide for acquisition of the content he doesn't have at the beginning of the educational program.

The instructor has three major functions in this learning model: (1) he may be one source of content, (2) he assists the learner to determine the content the learner does not have, and (3) he provides a variety of learning experiences so the learner can choose those experiences that will help him acquire the content he doesn't have.

A study conducted by Mager and McCann illustrate in a practical situation, the function of content, instuctor, and learner.[7]

Two forms of orienting newly graduated engineers to an industrial firm were compared. The old format was a six-month engineering course with six weeks of formal lectures, six weeks visiting various departments, and three months as an assistant to an experienced engineer.

All formal classes were canceled in the new format. The instructors spoke only when asked to participate. The new engineers were told they could have complete control over what they learned, when they learned it, and how they learned it.

A list of terminal behaviors expected of all new engineers was given to each new engineer. Thus, the first task of the students was to determine what they needed to learn in addition to what they already knew.

The outcomes of this camparison study were: the orientation time was reduced 65 percent under the new format. All the engineers were permanently assigned in six to eight weeks after the orientation period began; the graduates appeared better equipped than those who had previously participated in the old format--they demonstrated more confidence and knowledge; there was considerably less time inputs given by the instructor, administrator, and technical experts; the content studied varied considerably from student to student; and the sequence of information studied varied from student to student, but in no case coincided with the sequence used in the old format.

The key to this approach was its learner orientation. Students weren't required to re-learn what they already knew. Secondly, students could learn in ways that were most comfortable and useful to them personally.

Learning As Problem Solving. Here I'm talking about real life problems people face, not a problem contrived by the instructor who already knows the answer. I'm talking about problems that relate to the learner's family, his job, his relationships with his fellow man and the larger society, his concern for problems in the community.

In this learning model the function of the content is a means for solving the problem the learner brings to the learning situation. The function of the learner is to identify his problem, search for reasonable solutions, and finally settle on a solution to his problem.

The major functions of the instructor are to aid in the process of defining the problem, aid in the search for solutions and so on, plus being, in many instances, one source of content to the learner in his search for solutions.

There is considerable risk taking in this learning model--the solutions to the learner's problem is often not clearly apparent to either the instructor or the learner. Thus, there is a sharing in the learning transaction between the learner and the instructor.

Occasionally there may be no solution to the learner's problem--another risk the instructor must be willing to assume.

Learning As Inquiry. This model is a kind of cross between models one and two. The content has some value inherent in it, but the value of the content will vary from person to person. The starting place is the content, but the focus is on the relationship of the content to the individual learner.

The function of the instructor in this model is to provide a setting where the learner can relate to the content in such a way that the content makes sense to the learner and has a unique value to the learner. The instructor helps the learner identify component parts in the content, detect relationships among the parts, and the role played by each part of the content. Hopefully, the instructor's function will decrease as the learner becomes more adept at relating to the content.

The function of the learner is to relate to the content so the content ha value to him personally.

The aim of this learning model isn't only clarification and accumulation of content, but encouragement and guidance of a process of discovery on the part of the student. The instructor and the textbook cease to be authoritative sources of content to be learned, but become, along with other sources of content, materials to be dissected and analyzed.

The emphasis isn't on the content for content's sake, but what the content is about, or more specifically how the content relates to the learner.

For example, let's consider a group of students who wish to study Plato. Emphasis isn't on memorizing what Plato had to say. Rather the instructor helps the students analyze Plato by raising questions. What were the social conditions when Plato wrote? Is there any similarity between conditions then and now? What does Plato say to you--based on your background of experience, your formal education? What do you know about the social, political, and economic setting then as compared to now?

This learning model suggests a close relationship of the student to the content, with the instructor serving primarily as a guide in the process of inquiry.

Selecting a Learning Model

Obviously there are many ways of thinking about the process of learning--these are simply three ways that make sense to me. There is overlap among all the three approaches--for a learner to participate in problem solving he has to acquire content. And for that content to be most useful in solving his problem, inquiry of that content is important.

One of the problems for the adult educator is to know which of these learning models is most important in the particular setting he finds himself. How does the adult learner know when he should be focusing on learning as acquiring content, learning as problem solving, or learning as inquiry?

I don't have an easy answer for this question. The adult educator must come back to the very basic question of what is the purpose of this learning, with this adult, in this situation? Answering that question will help clarify which learning is most appropriate.

Perhaps the following example will help explain the relationship of the three learning models and also how the adult educator decides which model is most appropriate.

I'll use the content area of sex education. A group of intern pastors who will counsel adults and young people have a need for knowledge about sex education. As an adult educator dealing with this group of adults you might decide after talking with experienced pastors, consulting with experts in the field of sex education, and so on that there are certain content areas that these pastors should know before they will be able to do an adequate job in counseling. I would suggest that the "acquiring-content" learning model would be appropriate here.

A group of experienced pastors who counsel on sex education questions would probably be treated quite differently--with this group "learning as problem-solving" would seem more feasible. They come to the learning situation with many unanswered questions that are real problems to them. They're searching for answers from many sources. Here the function of the educator and of content changes. The adult educator helps the experienced pastors identify specifically their problems in the area of sex education and then helps them find content to answer their questions. The adult educator may be an expert in the field of sex education and thus he serves as one of the content sources.

We could also think about the same group of experienced pastors and the content area of sex education using the "learning-as-inquiry" model. Focusing on this model, the adult educator would help the pastors relate to the various kinds of sex education content available--analyzing it, learning something about the authors, the validity and the reliability of the research that contributed to the content and so on. Emphasis isn't on solving pastor's problems in relation to counseling about sex education, but helping him to relate more personally to the content available.

I think this example also helps to show the overlap that may occur among the three models.

When focusing on the problem-solving approach to counseling problems in sex education, the adult educator could help the pastors in the process of inquiry as they look at the various available content sources that may contribute to solving their problems.

And likewise, using the first example of the intern pastors, they too, could be directed in the process of inquiry as they deal with the content they need to have to get started in counseling in the field of sex education.

As you think about this, you'll see other ways that these three learning models overlap and indeed become part of each other. The overlap doesn't bother me. To me what's important is knowing which learning model fits which clientele group and which content at a given time.

In this paper I've tried to do three things. . .give you some reason why we must be concerned with the fundamentals of adult learning, share with you seven guidelines for learning, and finally show the relationship of these guidelines to three learning models.

As Bertrand Russell said, "If you want your problems solved, you must do the work yourself."

Do you think it's time to re-think the fundamentals of adult learning?

Do you have a set of learning guidelines which help you make decisions about your adult education activities?

Which learning models guide your adult education programs?

FOOTNOTES

1. P.E. Jacob, "Changing Values in College: An Exploratory Study of the Impact of College Teaching," in Joseph Axelrod *et al.*, *Search for Relevance* (San Francisco, California: Jossey-Bass, 1969).

2. John W. Gardner, *No Easy Victories* (New York, New York: Harper Colophon Books, Harper and Row, Publishers, 1968), p.73.

3. Eugene Koprowski, "The Generation Gap, From Both Sides Now," *Management of Personnel Quarterly*, VIII (Winter, 1969), pp. 2-7.

4. Philip E. Slater, "Cultures in Collision," *Psychology Today*, IV (July, 1970), p. 31.

5. Robert M. Gagne, *The Conditions of Learning* (New York, New York: Holt, Rinehart and Winston, Inc., 1970).

6. Donald Vandenberg, ed., *Teaching and Learning* (Urbana, Illinois: University of Illinois Press, 1969).

7. Robert F. Mager and Cecil Clark, "Explorations in Student-Controlled Instruction," in Richard C. Anderson *et al.* (eds.), *Current Research on Instruction* (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1969), pp. 35-56.

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ADMINISTRATIVE RESPONSIBILITY FOR EFFECTIVE INSTRUCTION IN ADULT EDUCATION PROGRAMS

VALBUR BORGER

It seems to me that the concerns expressed in the general discussion following the last presentation give clear evidence of the kind of need to which I wish to address myself today. The vexations expressed by a number of you in the audience whom I take to be instructors reveals, I think, that you are not getting the support leading to the improving of your teaching techniques which I think you deserve, which is proper to the complexities of instruction in our time, and which ought to be a major concern of effective administrative leadership. To clarify and expand, let me turn to my prepared text. From time to time I will depart from my prepared remarks and pursue certain concepts and arguments in a spontaneous manner as I perceive the nature of your reactions.

About a decade ago, one of our leading governmental figures made the following observation:

> One of the paradoxes of an increasingly specialized bureaucratic society is that the qualities rewarded in the rise to eminence are less and less the qualities required once eminence is reached. Specialization encourages administrative and technical skills which are not necessarily related to the vision and creativity needed for leadership. The evidence of good administration is coordination among the specialized functions of a bureaucracy. The task of the executive is to infuse and occasionally to transcend routine with purpose.

The perceptive author was Henry Kissinger. In order to point you more directly to the concern I have, I would like to offer one more quotation.

> It is useless to maintain that social process takes place by itself, bit by bit, in virtue of the spiritual conditions of society at a certain period in its history. It is really a leap forward which is only taken when the society has made up its mind to try an experiment; this means that the society must have allowed itself to be convinced, or at any rate allowed itself to be shaken; and the shake is always given by somebody!

This is a quotation to be found in Arnold Toynbee's Study of History. What am I driving at? Simply this. The main function and the central responsibility of administration in adult education programs is the providing of leadership leading to the increasing effectiveness of instruction in the classroom or wherever it may take place. Of course there are other concerns which are important. By and large these are housekeeping matters which can be delegated to specialized personnel who operate apart from instructional matters. In public education and in adult education the common assumption has been that teachers alone are responsible for the quality of instruction. This assumption has also held that teachers who possess a particular subject matter proficiency are also highly competent in a variety of instructional strategies. In this time of disturbance when the learning needs of millions are critical to the maintenance of the society, nothing could be further from the truth. In both public education and adult education teachers desperately need assistance in order to help them cope with serious learning problems.

Whose responsibility is it then that such help, such direction, such leadership shall be forthcoming? The logic, to me, is simple. Adult educational institutions come into being and exist in order to change learners via the medium of instruction. Therefore, the main concern of administrators perforce, must be the nature of the instructional program. Who else is to tend the shop to see that the appropriate standards are set and the necessary strategies are available to meet the needs of learners?

Leon Lessinger of the Georgia State University gives voice to a growing national concern over the quality of education in his definition of educational accountability.

> The application of the process of accountability to public education is a concrete and practical activity which can be used to confront some of our most critical education dilemmas, including the reestablishment of confidence in our education system. The emphasis of accountability in educational programs must be upon what the learner has learned. Too often educational managers attempt to explain their activities in terms of resources and processes used rather than the learning results. The public is beginning to demand "product reliability" in terms of learner capabilities. The most public aspect of accountability would be independent accomplishment audits that report learning results in factual, understandable and meaningful terms.

As an aspect of what Dr. Lessinger means, I would refer you to the Title VIII Rapid Learning Centers Project in the Liberty Eylau School District of Texarkana, Texas in which a private company has received a $270,000 five year grant to employ innovative methods in teaching reading and mathematics to potential dropouts from the seventh to twelfth grades. What is noteworthy, speaking of accountability, is that the contract was written in such a manner that the payments to the company will fluctuate according to the performance of the students participating in the program. It is, I believe, obvious that no company would venture into such an arrangement unless it possessed reassuring evidence that its proposed methods would work. And, of course, this they knew, since they had seriously and carefully field tested their premises before venturing into the business of instruction.

In adult education whether or not accountability is to be approached as systematically as in the case above, the adult education administrator is fundamentally--inevitably--responsible for the instructional program in terms of its quality. This means performance capabilities on the part of the learners after instruction has taken place. Our society can no longer afford the view that administration is one thing and instruction is a specialized thing apart from what the administrator does.

This responsibility for instructional quality exists for all levels of administration. The nature of the involvement ranging from policy to implementation differs in the hierarchy of administration, but there is no difference in each administrator's assumption that instruction is the foremost concern of the organization. The closer that an administrator's responsibility lies to the day to day aspects of instruction, the more will this administrator provide leadership to teachers for improving instructional strategies, through the implementation of appropriate diagnostic techniques, appropriate learning experiences and appropriate measuring instruments. The farther the administrator is removed from the day to day aspects of instruction the more he will be held accountable for the performance of the learners, since the choices of curriculum, policy, objectives, personnel and appropriateness of learning experiences will reflect his view of what constitutes a viable instructional program. At the highest level of administration constant evaluation of learners' performance will determine when ongoing instructional strategies are inappropriate and will need to be replaced by innovative approaches.

This is the problem facing the administrator in adult education programs. If one of us presumes to seek and accept the responsibilities of leadership, then it also has to be presumed that we are capable of devising and managing learning environments which will be effective in bringing about the changes which learners seek in coming to us. The focus must be upon relevant instruction. Not any instruction. The application, deliberately, with full knowledge, of that instruction which is indicated by the needs of the learners. That instruction which knows, beforehand, what the outcomes of learning will be.

Forty years ago when the American public was still in awe of science and when it was still impressionable, the science of education was making its rise. Edward Thorndyke delivered himself of the opinion that learning was all of the same cloth. An unfortunate utterance. Delivered, undoubtedly, during the warm glow of a public press conference. The effect of this, since Thorndyke's reputation was great, and certainly well deserved, was to shunt instruction, as a field of scientific inquiry, into the back room. Teachers taught and learners learned. The burden of the whole business was put on the learner's shoulders.

It has only been in the last ten years that serious scientific inquiry into instruction has been able to demonstrate the superficiality of Thorndyke's pronouncement. Contemporary learning theory has demonstrated the changing relationships among the variables of objectives, contents, experiences and learners. Instead, for example, of learning being all of one piece, Robert Gagne has identified eight conditions under which learning can and does take place when the instructional strategies are relevant.

Gagne also shows how each of the eight alone or in varying combinations can be applied to the reduction of specific learning tasks.

The significance of all this for administrative leadership must be clear. Are your client's needs for learning really being met? No doubt it is the teaching staff which is most directly involved in the implementation of instruction, but as an administrator can you confidently say that your staff possesses sufficient instructional sophistication to deal with the complex learning problems students bring to adult education classes today? Let me add injury to insult. As an administrator do you know that there can be different instructional strategies for which you might build inservice programs to help your staff resolve some of the learning problems their students face? When members of your staff present arguments for the adoption of innovative procedures in instruction, do you know what they are talking about?

Let me give you some examples of current developments in instructional strategy which, while not widely adopted in our schools, are, nevertheless far beyond pilot stages in development. For example, the individualizing of instruction is making rapid incursion into the instructional concepts of elementary school teachers and administrators. On this campus, this summer, there are secondary school teachers and administrators here to study the application of individualizing of learning to the secondary school situation. Hand in hand with the individualizing of instruction is the area of automating instruction in order to meet individual needs. Are you aware of the advances in reliable technology which have taken place in just the last five years? Do you know about the feedback limitations of instructional television and how they might be overcome? Can you begin to think of matching the impact of Sesame Street upon children with programatic approaches to a similar impact upon adults? Do you know about the establishment and operation of learning centers? If not, read the Mocker and Sherk article in the June (1970) issue of Adult Leadership which deals with the problems of adult basic education.

The Texarkana project, Sesame Street, individualizing of instruction, the development of automation and learning centers are all evidence of a dawning awareness in the country that there has to be effective mass education on a broad scale if our society is to survive as a humanistic and democratic one. Enormous pressures from the public and the federal government are being exerted upon all levels of education to become relevant to the rapidly changing demands of our time. There is no such thing as learning being all of one piece. There are many different kinds of learning problems. Perforce, there must be the proper application of many different kinds of instructional strategies.

Ira Gordon has developed a paradigm consisting of two models. This paradigm, I think, can help to clarify the kind of instructional situation we face. Gordon's representation consists of Newtonian man as the central figure in nineteenth century thought, and in which, he believes, much of contemporary educational practices are still grounded, and Einsteinian man as the central figure of that kind of twentieth century thought which has barely been felt in the operation of education programs. What is the difference which Gordon postulates? Let me show you.

Newtonian	Einsteinian
1. Man has fixed intelligence.	1. Man has modifiable intelligence.
2. Development is seen as orderly unfolding.	2. Development is seen as modifiable in rate and sequence.
3. Human potential is seen as fixed, though undeterminable at early ages.	3. Human potential is seen as createable through transaction with the environment.
4. Man possesses a telephone switchboard brain.	4. Man possesses a computer brain.
5. Man's energy output is like that of a steam engine.	5. Man possesses a nuclear power plant.
6. Man possesses a homeostatic regulator for drive reduction.	6. Man possesses an initial guidance and self-feedback motivational system.
7. Man is inactive until the engine is stoked.	7. Man is continuously active.

The meaning of these differences in ways of conceiving of man has enormous significance for the kinds of instructional programs we, as administrators, create. Significant in these ways:

1. In both the setting of learning objectives and in the choice of instructional design there will be emphasis upon cognitive and affective development.
2. The relevance of program and the relevance of the learning experiences provided by the instructional design will be determined not by the needs of discipline, but by the needs of society, of groups, of individuals.
3. The institutional philosophy will be that of a positive, self-fulfilling system in which there will be program failures and not learner failures. There will be accountability to both learner and the general public.
4. The basic learning unit will not be the classroom alone, but will embrace the larger community and all of its potentially relevant agents.
5. The objectives and processes employed in instruction will be humanistically oriented toward mechanisms of identity, connectedness and powerlessness.

6. The evaluation of learning effectiveness (sic) instructional effectiveness will emphasize performance in the target-area of learning rather upon emphasis in the achieving of grades and credentials.

I thought the Toynbee quotation I used in the beginning of my address significant, because I felt that in his historical inquiries he has amply postulated ways in which some civilizations are born, mature, age, and unhappily, die. In his works Toynbee makes much of the importance in a civilization of what he refers to as the creative minority. That is, those individuals and groups of individuals who are active responders to the challenges of their environment. Note I said active responders. Not necessarily one hundred percent effective responders. By that Toynbee means that there are critical times in which some persons will come forward to make decisions--he used the word shake. But it will be the quality of the shake which will determine the future of the civilization's direction. Will it be progressively forward providing a better life for all, or will it be a disintegrating society in which only the brutally strong will survive. Given the present nature of our tightly organized social structure, and also given the institution of education as the social organization means for undertaking the modification of individual behaviors, the question must be put as to whether the people in charge of educational programs are doing any shaking at all and, if so, in what directions. Administrators of education programs bulk large in numbers in our society at the present time. They may very well be a part of that creative minority which Toynbee has described. That minority whose choices and decisions once made might auger well or badly for the future of the civilization of which they are members.

SUPPLEMENTARY BIBLIOGRAPHY

Information Sources and Program Planning in Adult Education. Colorado Univ., Boulder. Extension Division. EDRS Order Number ED 028 358. Price: MF $0.25, HC $1.50 1969. 28p.

A literature search was made to assess information sources used by adult educators in deciding on educational content and format and achieving overall balance within agency programs. Attention was given to the involvement of individuals and groups in decision making as well as to certain conceptual factors in the decision making process. Generalizations included the following: (1) most information of possible use in program planning arises from the social and cultural setting in which the program will exist; (2) administrators have a central role in collecting, analyzing, and organizing information from the social sciences; (3) the structuring of knowledge for adult teaching requires a logical system somewhere between the broad concerns of adults and the rigorous limits imposed by subject matter; (4) experimental findings suggest, but do not dictate, possible educational decisions; (5) ranging from broad to specific, the levels of decision making involve determining the community to be served, identifying clientele, setting objectives, selecting subject matter and methods, and developing a sequence of learning activities. Bibliographic summaries of 16 studies are also included.

Gage, N.L., ed. Handbook of Research on Teaching. National Education Association, Washington. Rand McNally and Co., Chicago. June 1963. 1230p.

Past research on teaching is brought together in this handbook, summarized and critically analyzed. It is intended as an aid in the training of workers in research on teaching.

Hackel, Alan S. Some Aspects of Teacher and Leader Training and Recruitment for Higher Adult Education. Paper presented at the National Seminar on Adult Education Research (Chicago, February 11-13, 1968.) Ohio State Univ., Columbus. Div. of Continuing Education. EDRS Order Number: ED 018 759. Price: MF $0.25, HC $2.10 February 1968. 40p.

This report represents a synthesis of the current literature related to the topic of teacher and leader training and recruitment rather than an analysis of empirical data. In general, the personnel problem in higher adult education is examined from the standpoint of the growth of the field, personnel needs, the need for training, the aims of specialist training at this level, and present practices in training and recruitment. In addition, the implications for training of the various philosophies of adult education are examined as well as existing professional preparation and internship programs. Finally, there is a section dealing with conclusions and recommendations. While the results of this report are largely heuristic, it is believed that from such bases useful innovations in the practice of higher adult education may be developed.

Knox, Alan B. Critical Appraisal of the Needs of Adults for Educational Experiences as a Basis for Program Development. EDRS Order Number: ED 022 090. Price: MF $0.25, HC $1.35 25p.

Concepts of felt need, educational experience, program development, and program evaluation are variables significant to the appraisal of adult educational needs. Although the existence of a social problem often indicates that educational needs exist, individual needs are more useful than social problems as a basis for program development. Experts and potential participants are both important in the appraisal process. The focus of this essay suggests the usefulness of distinguishing between ways of meeting needs, and indicates that situational adjustments, along with learning, educative, and educational adaptations, might be appropriate on various occasions. The importance of autonomy and application as distinguishing characteristics of adult learners must also be stressed, together with the use of methodological rigor and judgmental balance, and the selection of needs to which a given agency or program elects to respond. The following activities might aid in need appraisal--delimiting the scope, describing potential participants, setting forth criteria of success, selecting most pertinent needs, relating needs to program design, and predicting widespread or emerging needs.

Miller, Marilyn V., ed. On Teaching Adults: An Anthology. Center for the Study of Liberal Education for Adults, Chicago, Illinois. EDRS Order Number: ED 028 330. Price: MF $0.50, HC $5.40 May 1960. 106p.

The bulk of this anthology treats adults as different from adolescents, in learning and in other respects, and the resultant demands which these differences make upon flexible, conscientious teachers of adults. Three essays deal with an overall view of adult education, its challenges, problems, and rewards. Other essays are concerned with the position of the university in adult education, the pressures upon it from without and within, and the philosophy of education, (the nature of knowledge, the values of a liberal education, and an evaluation of both teaching and learning). Several articles discuss teachers of adults, the types of people they are, types of responsibilities they have, and the qualities that are appropriate to a good teacher. The nature of the adult, his roles, attitudes, learning abilities--as well as general principles of good teaching of adults, including how adult teaching differs from other kinds of teaching and the limits of pedagogical authority--are also considered.

Mocker, Donald W. and Sherk, John. "Developing a Learning Center in ABE." In Adult Leadership; v19 n2 p48-50, 61-62. June 1970

Individually prescribed learning programs are essential for the undereducated adult. Guidelines for the development of an ABE Learning Center cover the training of teachers for this new approach and, with the teacher's help, the development of the curriculum by the student himself as he goes.

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